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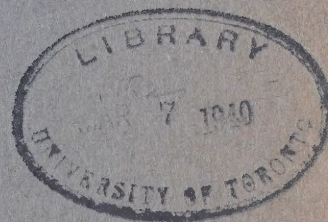
A FACT A DAY ABOUT CANADA

FROM THE

DOMINION BUREAU OF STATISTICS

JANUARY 1940

SIXTH SERIES



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James Muir,
Editor.

from the

Dominion Bureau of Statistics

No. 93. Mon. Jan. 1, 1940 -- The Year 1940

The year 1940 has begun and it seems, as friends greet one another, that all are labouring under the spell of a coming struggle that will be one of the most fateful in the history of human relations.

We have been told by those who ought to know, that the war has not really begun, and the air is full of rumours of what the belligerent nations, and even the neutral nations close to the sphere of conflict in Europe, may expect. Death and disaster of incalculable magnitude is predicted by men unaccustomed to pessimism.

The year that has begun sees the Finlander fighting for his home with glorious courage against a foe of tremendous potentiality, a foe with whom he had no quarrel and with whom there had been signed a compact of live and let live. The Finlander has given history an epic that Thermopylae cannot pale, and all the rest of the world wonders.

Statistics will undoubtedly record new and awful happenings, but beneath the bare figures there will be the story of a brave and resolute people on this side of the Atlantic, who have entered into the struggle to save human liberty in the world, as a crusade, a holy war.

We can see around us in the less exuberant New Year greetings than those of past years, the sign of firm resolve, realizing that it will be a year of testing of the character of the Canadian people.

We begin the New Year at any rate with good heart that, whatever the test, we are today strong as a people of the great Empire, stronger Canadians than we have ever been in the history of our race.

No. 94. Tues. Jan. 2, 1940 -- Canada's Mineral Production

The official estimate of Canada's mineral production in 1939, issued yesterday, is a most important matter, particularly at this time when Canada is at war. That official estimate, for which the world outside of us was waiting, had to be cabled overseas to satisfy inquirers abroad. This circumstance gives some idea of its importance.

Last year's mineral production is valued at the huge sum of \$470,179,000, which is coming close to half a billion dollars. Now, half a billion does not mean very much to ordinary folk like us, but it does have a real meaning when we are able to compare it with something else of which we have a better idea.

Wheat provides such a comparison. The value of the 1939 wheat crop was \$252,779,000. But wheat is only one of many field crops, and the total field crop of 1939 was worth \$634,130,000. The farmer has also fruit, meat, milk, eggs and so forth to offer in the market.

Gold is the chief factor in our mineral production. Of the total of \$470,179,000, gold had a value of \$181,274,000. To make a true comparison, therefore, gold should be placed opposite wheat and wheat has a definite lead. The purchasing power of these two items added together is something worth talking about. It is over \$433,000,000.

The variety of the minerals mined in Canada is worth considering. Take metallics alone. There are gold, silver, nickel, copper, lead, zinc, platinum, arsenic, bismuth, cadmium, cobalt, molybdenite, selenium, tellurium and titanium in 1938 and in addition, in 1939, manganese ore, mercury, tungsten ore and iron ore.

From time to time there will be something said, as has been said in the past, about the uses to which many of these metals are put.

No. 95. Wed. Jan. 3, 1940 -- An Emergency Hay Crop

Never in the history of Canada has such attention been paid to the farmer, and the possibilities of the farm to provide the sinews of war. Much interest is being shown, therefore, in soybean production in Eastern Canada. This is particularly so in Ontario, where soybeans are used extensively to provide protein concentrates for livestock. Also, soybeans are about the only annual legume which can be used satisfactorily as an emergency hay crop when red clover, alfalfa, or other biennial or perennial legumes fail, due to drought or winter killing. There have been about 10,000 acres planted to soybeans annually of late years.

Successful production of soybeans is dependent, first of all, upon the selection of suitable adapted types. Varieties of Canadian origin which are suitable for growing in many parts of the Dominion are now available. Growers are advised to secure seed of varieties suitable for their district for 1940 seeding.

The chief considerations to be kept in mind when choosing the variety of soybeans are the locality and the use to be made of the crop. The highest yielding varieties of both grain and hay are the relatively late maturing sorts for the district. Thus, the best varieties for hay are the ones which are relatively late maturing but are early enough to reach the hay stage while the weather is suitable for curing. The best grain varieties are the latest sorts which will mature before heavy frosts set in. If the seed is to be sold to soybean mills for processing, a further limitation is imposed. Since the manufacturers of soybean products discriminate against soybeans with coloured seed coats, it is necessary to grow yellow seeded varieties if sale of the beans to mills is contemplated.

The Division of Forage Plants, Central Experimental Farm, Ottawa, has introduced and tested hundreds of varieties and strains of soybeans and has produced, through plant breeding, several superior varieties. Those interested may secure definite advice from the Department of Agriculture on this subject. Every little helps in the war effort.

No. 96. Thurs. Jan. 4, 1940 -- Canadian Magnesite in the War

Magnesium, eighth most abundant of Nature's elements, is recognized throughout the world as a useful metal. Its commercial importance has grown rapidly in recent years, with its wide use for structural and metallurgical purposes.

Included among the magnesian minerals are magnesite, dolomite and magnesium salts, but magnesite heads the list. A compact granular form of natural magnesium carbonate, it constitutes a very valuable material in making refractory products intended to withstand extremely high temperatures. As a kiln lining it is used in the construction of steel, copper, nickel and other furnaces. It is also manufactured as finely ground refractory cement, and in the form of bricks it provides enduring floors and floor tiles; it is also a potential source for the metal magnesium. Reasonably stable under atmospheric conditions, magnesium metal and its alloys are expanding rapidly in aircraft construction.

In peace time as well as in war time, magnesite is an indispensable material for the great steel mills of the United Kingdom. Having no home production, Great Britain is particularly dependent on outside sources for this mineral.

It is at this point that Canadian magnesite becomes prominent. There are large deposits of magnesitic-dolomite in Argenteuil County, Quebec, sufficient to supply home products for many years and also to support a large export trade. In addition, large deposits of magnesium bearing rocks occur near Marysville, Atlin and Clinton in British Columbia, and in the Yukon. Exploratory work has been conducted on the western deposits, but as yet there has been no important commercial development.

The Quebec deposits, only 75 miles northwest of Montreal, attracted wide attention when during the first Great War supplies from Greece and Austria were cut off from the western hemisphere. The company which develops these deposits is the largest producer of magnesitic-dolomite in the British Empire. It makes shipments to Great Britain and other parts of the Empire, as well as supplying a good part of our domestic needs.

An interesting development during 1938 was the discovery at Rutherglen, Ontario, and at Bryson, Quebec, of brucite-bearing limestone. Brucite, a hydrated magnesium oxide, contains a higher percentage of magnesium than magnesite and can also be utilized for the manufacture of refractory material for lining metallurgical furnaces. It has value also as a potential source of magnesium metal.

In recent years the tonnage of magnesitic-dolomite produced in Canada has not been published, but in 1938 the value was \$420,261. A total of 9,219 tons of magnesite, valued at \$336,811, was used in the Canadian primary iron and steel industry in 1938. Already Canadian production and consumption of magnesite has been stimulated by the war.

No. 97. Fri. Jan. 5, 1940 -- The Finlanders

Only a year or so ago there appeared amongst these daily Facts a reference to Finland, but so much have the gallant people of that country come into our thoughts it will be timely to say something more about them. The Finlanders have swelled the ranks of those small countries that have had to fight for their very existence and have done it successfully. So amazing has been the success of the Fin s in the defence of their native land against the vast hordes of Russia, that it has evoked

a world's wonder and admiration.

There are, according to the last census, more than 25,000 people of Finnish origin in Canada. About half of them were born in the Dominion and the other half in Finland. Nearly all the Finns are Lutherans. Finnish and Swedish are the official languages of Finland.

The land they love so well is about 150,000 square miles in extent, or approximately almost twice the size of the Maritime Provinces and Newfoundland added together. Like Canadian territory, it extends into the Arctic.

The country was conquered by Russia from Sweden in 1809 and united to the Russian Empire, as an autonomous but not sovereign Grand-Duchy. When the Russian Empire broke down in 1917, Finland declared herself an independent sovereign state. Relations between Finland and Russia were finally settled by treaty in 1920. About 90 per cent of the people speak Finnish and 10 per cent Swedish. There are nearly four million inhabitants. The Aland Archipelago, a group of 300 islands at the mouth of the Gulf of Bothnia, belongs to Finland.

Here are some interesting facts. There are three universities and several technical and commercial high schools. The forests are a great source of wealth; in Europe only Russia is so wealthy in forests as Finland. The merchant fleet consists of about 600 steamers, over 180 motor vessels and 110 sailing vessels. Service in the army is universal and compulsory.

The Republic is governed by a single chamber, elected by the people. Finland was the first country to concede woman suffrage and representation and it is noteworthy that it was gained without agitation. It was for some years a Prohibitionist country, the only one in Europe.

The national flag is white with a blue cross.

No. 98. Sat. Jan. 6, 1940 — Ye Olde Wooden Ice Boxe

In an age when yesterday's household necessities are today relegated to remote corners in basements, or perhaps to a happier and more useful fate in the summer camp, it is interesting to note that at least one item amongst the horse-hair sofas, sideboards and push-and-pull washing machines of yesterday, has not only held its own but is occupying a position of increasing usefulness in the Canadian household.

This is the wooden refrigerator, that article of sturdy lines and doubtful beauty that dripped its way into an abiding place in the home during the past century. Nor has the advent of the electric refrigerator ousted it, doubtless because many rural communities and settlers are beyond the reach of the various hydro systems, and also because of the relatively lower initial cost of the ice refrigerator. The manufacturers, too, have done their part, and done it well, in fitting the old wooden ice box with the necessary handsome exterior to grace the modern kitchen.

A compilation of statistics returned by firms engaged wholly or chiefly in the manufacture of household and commercial refrigerators, cold storage counters and ice cream cabinets constructed chiefly of wood, reveals that there were 14 such establishments in 1938. Ontario's proportion of these firms was nine, Quebec

two, Manitoba two, and Alberta one. A number of other industrial firms not included in this class make relatively small quantities of cold storage equipment as a side line.

The value of wooden refrigerator products in 1938 was \$851,400 compared with \$633,300 in 1937. There were 205 employees on wages in 1938, an increase of 41 over the previous year.

No. 99. Sun. Jan. 7, 1940 -- Consumption of Wheat

Although Canada is one of the great wheat producing countries, and wheat occupies a large place in our economic structure, it is not one of the greatest wheat consuming countries, that is, pro rata to population.

There are several countries whose inhabitants use more wheat per capita than we do. Apart from seed requirements, but including food for poultry, etc., the Canadian consumption of wheat is about 270 pounds per head per annum. Our consumption for human food is a little less than 250 pounds.

The greatest consumer of wheat is the Frenchman. His consumption is estimated at about 432 pounds and he adds 46 pounds of rye to his menu. People in the United States eat more wheat than Canadians, their per capita consumption being about 282 pounds. Even that, however, is considerably below the consumption of 342 pounds in the United Kingdom, despite the heavy use of oats in certain parts of these islands.

The Germans are not so strong on wheat as many other nationalities. Wheat consumption runs about 150 pounds per capita, but the Germans use more rye than wheat. Their use of that cereal is about 200 pounds, so that, adding wheat and rye together, the total is only 350 pounds. The Spaniard consumes 330 pounds of wheat and he adds 58 pounds of rye to it. The Italian consumes comparatively little rye but the Pole a great deal. Indeed, the Pole is regarded as the heaviest consumer of rye in the world with 375 pounds; his wheat consumption is 78 pounds.

There is only one reserve to that statement -- we have no statistics from Russia. The Australians, by the way, with 300 pounds, eat considerably more wheat than the Canadians. All the figures given are approximate.

No. 100. Mon. Jan. 8, 1940 -- Farming on Indian Reserves

We have been talking a good deal these last few months about food and the contribution Canada is making to the Allies in the form of provender. So it is timely to give more than a passing thought to what the Indians of the Dominion are doing with the lands on the Reserves. Those whose memory goes back to one-quarter of a century ago, when the call came to arms, will recall the stirring response of the descendants of the great tribes that used to roam the woods and prairies not so long ago.

Take it in round figures. There is about one-quarter of the Reserves under field crops, and as the horse is still king on these Reserves it is natural to expect that the chief crop will be oats. So it is. The acreage under oats last

year was almost 50,000 acres, with wheat a little less.

It was from the Indians of Upper Canada we learned about corn and the Indians' corn crop for husking was taken last year from 1,300 acres. With the exception of three acres in Nova Scotia, all of it was in Ontario. There was almost the same acreage under fodder corn, practically all of it being grown in Quebec, Ontario and British Columbia. There was none grown in the Prairie Provinces. There were 23,000 acres under oats in the Prairie Provinces and 21,000 in Ontario.

As to be expected, the Alberta Indians, with 22,000 acres had the largest wheat acreage last year, and Saskatchewan had 15,000.

One expects an Indian to be fond of horses. So he is. Altogether the Reserves have almost 30,000 horses, some of them very fine animals. Alberta leads the way with about 11,000 and British Columbia 9,000. Out of 42,000 cattle last year, British Columbia had 14,000 and Alberta 12,000.

Of course, there are many Indian farmers all over the Dominion; the figures given are for the Reserves only. It is enough to show how notable is their contribution to agriculture.

No. 101. Tues. Jan. 9, 1940 -- Sending Perishable Goods Abroad

The sending of perishable goods abroad, especially during war time, is a great problem which has been solved amazingly. It is something to ponder over. We are fairly familiar with it.

But the problem is not ended with the despatch and carrying of perishable goods. There must be cooperation and efficient care of the goods at their destinations. There are great difficulties, and an example of that is provided by India, an important part of the British Empire. One of our Canadian trade commissioners there says:

The climate over a large area of India for most of the year is so hot and humid that the trade in foodstuffs of a perishable nature has invariably been attended by serious risks and heavy losses. To some extent the diversion from fresh to imported tinned foods has enabled the trade and the individual consumer to avoid these risks and losses; but the alternative has not at all times proved satisfactory and there is today a definite trend in this market towards increased use of refrigeration in the import, storage and distribution of many types of foodstuffs.

The severity of the Indian climate is experienced in all the principal cities. Those on or near the coast, such as the larger cities of Calcutta and Bombay, have hot weather practically throughout the year. Some of the principal inland centres, such as Lahore and Delhi, have much higher summer temperatures but a cold winter. In the early days of European settlement, the prevailing heat and humidity in the principal markets resulted in the practice of consuming all perishable foods immediately following their purchase in the bazaars, and in the universal custom of buying only sufficient of such foods for each day's use. It is still uncommon, for example, for domestic fruits to be served at dinner as these will have been kept during the heat of the day and may have deteriorated sufficiently to be unpalatable or dangerous.

The increased use of artificial ice and electric- or gas-operated domestic refrigeration has greatly ameliorated conditions in the larger centres of population

for the individual rather than for the trade. The latter is to a large extent controlled by small Indian firms which cannot afford to install refrigerating plants and take the risk of selling out their daily stocks. A further factor is the shipment of fruits, vegetables, and other perishable foods over the long distances from producing areas to the leading markets. The railways have been slow in providing refrigerated cars for such traffic and many shippers and dealers are inclined to take the risk of loss rather than pay the higher costs of freight in refrigerated space. The result is that losses are still heavy and that markets have in many cases gone without supplies of fruits, fish, meats, and vegetables which are in keen demand and would otherwise be available.

Installation of refrigerated chambers on cargo vessels has made it possible for perishable foodstuffs to be taken into India's main ports from many sources. The obvious desirability of extending the sale and consumption of these goods and of encouraging and regulating domestic production has recently been made a subject of investigation by the government. The Imperial Council of Agricultural Research has for some time past carried out a series of experiments with the cold storage of various foods and, with the aid of the Agricultural Marketing Adviser, the railways, and defence authorities, has issued various reports on this important question. Practical developments may not be apparent for some time to come, but it is obvious that the field offers wide scope for scientific investigation and practical co-operation by the trade.

Cold storage plants at present in operation in India are in general of limited capacity and of many different types. Our exports to India in 1938 were of the value of over \$4,348,000. An advance in refrigeration in India would no doubt increase that amount.

No. 102. Wed. Jan. 10, 1940 -- Fishermen's Ups and Downs

The life of a fisherman has its ups and downs! Take, for instance, two days during a recent week covered by reports to the Dominion Department of Fisheries by its resident inspectors in two localities on the Nova Scotia and New Brunswick coasts.

At Queensport, Nova Scotia, a Monday dawned fine and warm, with a calm sea. A very heavy run of mackerel struck the harbour and excellent catches were landed. One fisherman alone made over \$400 while the big run was on. One trap operated by four men took 26,000 pounds of the streamlined fish. Good fishing also prevailed off Half Island Cove, Black Point, and Fox Island, all nearby points, and the fish plants at Queensport were "humming" night and day getting the fish under salt as quickly as possible.

On the New Brunswick coast, at almost the same time, the fishermen on the other hand were having "hard luck." A heavy southwest gale swept the Charlotte county coast, causing heavy damage. Several carrier boats at Back Bay were badly damaged by the fury of the storm. Weir boats, various small craft, and the fishing weirs themselves were battered. Damage to herring weirs along the shore from Back Bay to St. Andrews was estimated to reach \$1,000. The weir boats and smaller craft sustained damages that will cost \$500 to repair and the carrier boat damages were surveyed as being approximately \$1,500.

Mackerel are an important fish in the Nova Scotia fisheries -- nearly 228,000

hundredweights of these fish were taken in 1938 with a marketed value of over \$274,500 -- and of the entire catch the greater part are salted, though a considerable quantity is, of course, used fresh, and a small quantity smoked. Herring likewise play an important part in Canada's fisheries, being taken in large quantities on both Atlantic and Pacific coasts.

Pelagic is the term used to describe fish which ordinarily are found near the surface. Mackerel and herring are two examples of pelagic fish.

No. 103. Thurs. Jan. 11, 1940 -- Filming for the Libraries

Libraries have been interesting themselves in the question of making film copies of publications to save space. Space has become a serious problem for most of the great libraries. Here are some notes on the subject provided by one of the Government librarians. They may prove useful.

For the last five months the "Ottawa Journal" has been having film copies made of its files. This is done through the Toronto office of a United States photographic supplies company. At the end of each month the file is forwarded to the company. Then, in about three weeks, the negative film is returned to Ottawa. The positive film is kept. At any time when it is wanted an additional negative film will be made from the positive.

At present this is being done for a year, as an experiment. Should it be decided to adopt the film for final record purposes, the newspaper files will be discarded. At present the files of papers are kept in very large bound volumes, each volume holding three months' issues of the daily paper.

The "Journal" is considering the possibility of supplying films to such libraries as the Library of Parliament, the Ottawa Carnegie, and others which may make a requisition for them. No doubt other newspapers are doing the same thing.

The question of cost for supplying a year's films is not yet settled, but a possible rate of one dollar a week was tentatively suggested.

Apparently the Journal staff's chief idea in adopting the film for records is the saving of space. A special lens is used for reading the films.

No. 104. Fri. Jan. 12, 1940 -- Selling Seal Pelts Here

Some months ago it was announced that this season seal pelts would be sold at auction in Montreal for the first time in the history of the Dominion. Over three thousand of them have since been brought from London, where the market has been greatly reduced since the outbreak of war. A statement by the company in charge of the sales will clarify what has occurred.

"Under the trade agreement between Canada and the United States, the Dominion receives 15 per cent. of the total Alaskan seal catch each year, which is under control of the United States Government. Incidentally, Japan receives a share of this catch.

this catch.

"Up to a few years ago the Dominion shipped its share of the seals to St. Louis, Missouri, along with balance of the catch, and took its due in cash. Then a few years ago it was decided to take the skins, instead of the money, and the furs were sent to London, where they were dressed and dyed, and later sold.

"Owing to the war conditions prevailing, it has been thought advisable to bring part of the Dominion's share in this year's catch to Canada and sell them by auction here. The 1939 total Alaskan seal catch probably will amount to 55,000 skins, leaving Canada's share about 9,000, so that this shipment is one-third of the year's total for us. It is a sort of test shipment.

"It will be the first time in the history of the fur business in Canada (which of course extends back to the earliest settlement of the country) that sealskins in any form, raw or dressed, have been sold within the borders of the country. It will, hence, be an experiment."

It is interesting to note that only male seals are caught. The powerful male Alaskan seal controls a harem of 40 to 50 females; sometimes he has as many as 100. In the breeding season the bull seal undergoes an unbroken fast of eight to ten weeks, during which time he constantly watches his harem. The female, which is only one-fifth the size of the master, can recognize her young one by its scent and cry. Should the mother perish the young will die, too, for mothers will not suckle strange Alaskan seal babes; hence, the rule not to kill the females.

There has been a tremendous increase in the Alaskan seal herd. It was 123,000 in 1911 and now it is over 1,600,000.

No. 105. Sat. Jan. 13, 1940 -- Story of the Fur Trade

After what was said yesterday about sealskins, it will probably be appropriate to give a brief resumé of the history of the all-important Canadian fur industry. The place which the fur trade held during the French regime in Canada, when for a century and a half it was at once the mainspring of discovery and development and the curse of settled industry, is familiar history. Later the Hudson's Bay Company may be said with truth to have held the West until the Dominion had grown to absorb it, bequeathing to the civilization which came after a native race accustomed to the white man and an example of organization and discipline that was of lasting influence. The salient facts in the story are as follows:

From the earliest times the Basque and Breton fishermen upon the "banks" had traded for furs. As the French court demanded more and more furs, adventurers came for the latter trade exclusively. Pont-Grave and Chauvin built Tadoussac in 1599 as a centre for this trade with the Indians of the Saguenay, and when trade routes were discovered further inland, the founding of Quebec and Montreal followed. The French Government from the first granted monopolies of the fur trade, always on the condition that the Company should bring to Canada a stated number of settlers. But settlement and the fur trade could never go together -- settlement by driving fur-bearing animals farther afield made trading increasingly expensive, and the great profits of the fur trade, together with its freedom and romance, took all the adventurous from the rational pursuits of a settler. Trade spread west and south by the river routes, convoys bringing the furs yearly to Montreal and Quebec.

The de Caen Company in the seventeenth century sent yearly to France from 15,000 to 20,000 pelts. "Beaver" was made the Canadian currency.

In the meantime, English navigators had been seeking a Northwest passage to the Orient. By 1632 their efforts came to an end with little practical result. Hudson Bay, however, had been accurately charted, so that when the first English fur-trading ships came some years later, they sailed by charted routes to a safe harbour. The first expedition (1668) came at the instigation of Radisson and Groseilliers, two French coureurs-de-bois who had travelled in the rich fur country north of Lake Superior. They had sought aid in France, but being repulsed turned to England. In 1670 the charter of the "Adventurers of England trading into Hudson's Bay" was obtained by Prince Rupert, who became the first Governor of the Company (whence the name Rupert's Land). On the granting of the Charter a second expedition set forth, the ships well laden with merchandise to be used in barter with the Indians and with supplies for the new trading posts.

Fortes were built on Hudson Bay and James Bay, at the mouths of rivers, and the Company waited for furs to be brought to its posts. From the first the relations with the Indians were friendly, and the Company soon won their confidence by fairness in barter and by help in time of want. As a result the Indians carried to the Company's posts their harvests of pelts and the ships returned to England each year well laden with furs, the proceeds from which gave to the "Gentleman Adventurers" generous rewards for their vision and for the investment which had made possible the utilization of this rich domain. During the struggle between the English and the French, which commenced about 1685, the Company sustained heavy losses, and no dividends were paid.

No. 106. Sun. Jan. 14, 1940 -- An Absorption

With the English victory came a new era of prosperity; additional posts were built; more and more Indians came to trade; great cargoes of furs were sent to England; and the shareholders again received substantial dividends on their stock.

With the Seven Year's War the fur trade from the South passed out of the hands of the French, and until 1771 the English were busy rediscovering the old French routes to the West. A period of open competition followed. The discoverer of a new fur district was soon followed by competitors who undersold him and were undersold by him until some or all were ruined and left for new fields.

At length, in an endeavour to retrieve their fortunes, the competitors would join their interests. Such a concern was the Northwest Company, founded in 1783-4, with a stock divided into 16 shares. No capital was deposited, but each party supplied a proportion of the articles needed for trade. The Northwest Company pursued a vigorous policy, founding posts to control all the best fur districts. The Hudson's Bay Company felt the keenness of the competition and was forced to abandon its ancient policy of waiting for furs to be brought to the Bay. By 1816 the rivals had absorbed or ruined eleven other partnerships and were themselves on the verge of ruin.

Finally in 1821, the two were joined under the name of the older company. The Northwest Company brought with it the control of the Pacific and Arctic watersheds, to be added to the lands draining into Hudson Bay, and over the whole region the Hudson's Bay Company secured legal recognition of its monopoly of the fur trade.

The Company's rights of exclusive trading in Indian territory expired in 1859 and ten years later it surrendered its other privileges. In return, Canada granted 300,000 pounds to the Company, as well as lands about its trading posts, and one twentieth of the land in the fertile belt between the North Saskatchewan River and the United States boundary. The Hudson's Bay Company thereupon became a trading company, with no extraordinary privileges.

No. 107. Mon. Jan. 15, 1940 -- Present Conditions in Fur Industry

There have been great changes in the fur trade. The railway first revolutionized conditions throughout the country, then more recently the advent of the motor vehicle has influenced the extension of highways to the borders of settlement, and beyond. Boats ply the lakes and rivers, and the aeroplane is requisitioned for the transportation of furs from the more inaccessible districts. The advance of lumbering, mining and agricultural settlement, together with improved methods of capture, have driven fur-bearing animals further and further afield, and caused serious reduction in their numbers. To guard against further depletion and to ensure the prosperity of Canada's great wild life heritage, the Dominion and provincial governments have adopted, in co-operation, a strong policy of conservation.

The conservation of the fur bearers of Canada, as set out by the Superintendent of Wild Life Protection, Mr. Hoyes Lloyd, is a matter coming under the jurisdiction of the respective Provincial and Territorial Governments. Nevertheless, the Dominion as a whole is concerned in the conservation of fur and of all wild-life resources. It was to co-ordinate the wild-life conservation efforts of the various Dominion Departments that the Advisory Board on Wild Life Protection was organized in 1916. The Board is specially authorized to advise with respect to the administration of the Migratory Birds Convention Act and the Northwest Game Act, but has dealt with many other problems of wild-life conservation. Through conferences of provincial and Dominion officials which were convened for many years by the former Department of the Interior, but are now arranged by the Department of Mines and Resources, uniform and concerted action has been taken and the conservation of Canada's wild-life resources has been advanced.

The general policy followed with regard to the fur-bearing animals has been mainly along two lines: first, to so regulate the taking of animals by limitation of catch or close season as to prevent their extinction in districts where natural conditions provide a suitable habitat; and second, to provide sanctuaries in strategic places which serve as reservoirs from which large areas of surrounding wild country may be naturally restocked.

Many of our most valuable fur-bearing animals are subject to marked fluctuations in numbers. The periods of abundance and of scarcity recur in sufficient regularity to be called cycles; they have an important bearing upon the fur trade generally and more particularly upon the well-being of a large percentage of our Indian and Eskimo population who depend upon the wild life for their livelihood.

The Department of Mines and Resources, with the assistance of the Bureau of Animal Population, Oxford University, and the Hudson's Bay Company, has commenced an inquiry in the form of an annual questionnaire distributed to a number of Arctic stations with the object of endeavouring to determine the facts about each of these recurring fluctuations. It is necessary to continue this investigation from year to year because the situation is changing continuously.

No. 108. Tues. Jan. 16, 1940 — Fur Farming and Production

The industry of fur farming now plays a most important part in the fur trade of Canada, the value of pelts of ranch-bred animals representing approximately 43 per cent of the total value of the raw fur production of the Dominion. For many years fur farming was concerned almost entirely with the silver fox, but during the past few years much success has been attained in the raising of mink. Other kinds of fur-bearers -- red fox, cross fox, blue fox, raccoon, skunk, marten, fisher, fitch -- are also found on the farms, but their numbers are small in comparison with the numbers of silver foxes and mink. To the list of fur-bearing animals on Canadian fur farms has been added the valuable chinchilla, a native of South America. The 1933 census of fur farms recorded two farms -- one in Saskatchewan and the other in Alberta -- raising chinchillas.

Early records of raw fur production are confined to the decennial censuses, when account was taken of the number and value of pelts obtained by trappers. In 1920 the Dominion Bureau of Statistics commenced an annual survey of raw fur production, basing its statistics on information supplied by the licensed fur traders. This survey was continued for some years. More recently, annual statements, based on royalties, export tax, etc., have been made available by the provincial game departments (excepting Prince Edward Island), and these statements are now used in the preparation of the statistics issued annually by the Bureau. In the case of Prince Edward Island, the statistics are based on returns supplied directly to the Bureau by the fur traders who deal in furs produced in the province.

The value of the raw fur production of Canada in each of the seasons 1920-21 to 1937-38, and an estimate of the percentage of total value to be credited in each of these years to the pelts sold from fur farms, are given in the following table.

Season	Total Value	Percentage from fur	Season	Total Value	Percentage from fur farms
	\$			\$	
1920-21	10,151,594	3 p.c.	1929-30	12,158,376	19 p.c.
1921-22	17,438,867	4 "	1930-31	11,803,217	26 "
1922-23	16,761,567	4 "	1931-32	10,189,481	30 "
1923-24	15,643,817	6 "	1932-33	10,305,154	30 "
1924-25	15,441,564	4 "	1933-34	12,349,328	30 "
1925-26	15,072,244	5 "	1934-35	12,843,341	31 "
1926-27	18,864,126	6 "	1935-36	15,464,883	40 "
1927-28	18,758,177	11 "	1936-37	17,526,365	40 "
1928-29	18,745,473	13 "	1937-38	13,196,354	43 "

The chief markets for Canadian furs are London and New York; the trade tables for the 12 months ended June 30, 1938, show that of the total of \$12,653,355 worth of raw furs exported, the United Kingdom received \$8,363,694 and the United States, \$3,610,520. At the close of the Great War, Montreal took a position as an International fur market, holding the first Canadian fur auction sale in 1920. At the sales held in Montreal during the year 1938 the pelts sold numbered 1,433,101, while the value amounted to \$4,992,956. Fur auction sales are held also at Winnipeg, Edmonton and Vancouver. The chief kinds of furs, with regard to number treated, were rabbit (1,522,623) and muskrat (987,713).

No. 109. Wed. Jan. 17, 1940 -- Canadian Macaroni

It is hardly necessary to say that the country of origin of macaroni is Italy. The name itself indicates that, as do the kindred products of vermicelli and spaghetti. We forgot what was due to sunny Italy, however, when we began to call one of these similar products noodles.

Once upon a time Italy was the one and only producer of macaroni and that delicious dish, associated particularly with Naples, made a strong appeal to the fastidious appetites of travellers who made their way into the Mediterranean and visited Italian ports. They ate it with relish.

Some young Englishmen, after a trip to Italy in the 1700's, were so enthusiastic over it that they formed a Macaroni Club, and no less a person than Charles James Fox, the great English statesman, was one of its members.

But the glory of macaroni has largely departed from Italy; it is now made in many other countries. Canadian macaroni is notable. Owing largely to two things the Canadian product has captured leadership in the British market. One of these is that Canadian hard wheat is the best for the manufacture of macaroni and the other is the remarkable enterprise shown in recent years by the manufacturers of these flour products.

Canadian production now runs to around 45 million pounds in a year and last year over nine million pounds went to the United Kingdom alone. There are four plants in each of the provinces of Quebec, Ontario and British Columbia, three in Manitoba and one in Alberta.

It is an interesting manufacture. The letters of the alphabet lying in a bowl of soup, the white cylinders in that popular dish, macaroni and cheese, the rope-like spaghetti and its slim twin vermicelli, are all made from the same flour paste. Different arrangements of holes in the bottom of a cylinder, somewhat on the same lines as a potato ricer but very much larger, make the various shapes. The paste comes through in the form of tubes or strips, is cut into lengths and is hung over rods to dry.

No. 110. Thurs. Jan. 18, 1940 -- Buffalo Steaks

When at Christmas some people substituted a buffalo steak for a turkey drumstick at the annual feast, it was in effect a ceremonial that saw the end of the Wainwright Buffalo National Park as such. The herd of over 5,500 buffalo was slaughtered.

That does not mean, however, that the buffalo was exterminated. Far from it. It did mean, though, that the plan to reintroduce the buffalo and make of it once again a wild animal that would roam free, has been successful.

Faced with the almost complete disappearance of that picturesque animal the Government of the day in 1907 purchased a herd of 700 pure-bred buffalo from Michael Pablo, who had preserved the animals on his ranch in Montana. The animals were at first quartered in Elk Island National Park, some thirty miles north-east of Edmonton, and had many advantages. Later the herd was transferred to Wainwright. The 700 had increased to 21,000 by 1930, when nearly 6,000 were slaughtered and

6,000 others were shipped to the Wood Buffalo Range to the north.

Some of the Wainwright buffalo have been transferred to the Elk Island Park, but the outstanding fact is that the buffalo which were set free in the north of Alberta and in the North West Territories are doing well in their new habitat. They are living under natural conditions, as their ancestors did before the white man arrived to destroy the vast herds that roamed the plains.

Now that the scheme for the preservation of the buffalo has proved a success, there is no need to expend large sums for fodder as has had to be done at Wainwright these many years.

No. 111. Fri. Jan. 19, 1940 -- Submerged Mountain Peak Revealed

There have been many mysteries on Lake Superior, tragedies whose causes have never been revealed, ships that have left port and never been heard of again. There is one mystery of two warships built at Port Arthur, launched and sent on their way to Europe during the Great War. After leaving Port Arthur nothing was ever heard of them. They never reached Sault Ste. Marie.

But there was a paper read at the annual meeting last year of the Canadian Institute of Surveying by R. J. Fraser, Senior Hydrographer of the Department of Mines and Resources, which contains some astonishing information about submerged mountain peaks in Lake Superior that may account for these losses. Mr. Fraser says:

"A few years ago, one of the fleet in the gulf was called away by anxious Great Lakes mariners to steam the seventeen hundred miles to stormy old Superior. Out in the very centre of this freshwater inland sea a ship had startlingly reported a seven fathom shoal,-- right where an early chart informed mariners that there lay the deepest water of the whole lake. The position was out of sight of land, forty-three miles off the coast, and the depth previously advertised was 1,000 feet of water.

"Seemingly incredible, yet there it lay,-- not the seven fathoms, as reported, but half of that, and when sounded and resounded, and contoured, and gone over as with a fine-toothed comb, there came to light a number of smooth granite summits, one reaching to within twenty-one feet of the surface.

"Imagine the disconcerting revelation to a deepwater man, when, on the bridge of his huge grain carrier, on a smooth day, he glances casually over the side,-- and in this seemingly ridiculous location in the middle of the lake, sights the coloured granite streaks of this mountain top,-- within inches of his keel.

"Unknown, it had lain throughout the long years of lake navigation, in the path of the big "Great Lakers," on the greatest inland grain route in the world,-- until modern equipment disclosed its ugly features, to the astonishment of seafaring men. With the disclosure, too, came concrete evidence that here were the graves of Great Lakes freighters and other proud craft, who had left port, never to be sighted again. Now, not only do the charts reveal Superior shoal, in all its sinister aspects, so that "he who sails may read," but on both the United States and Canadian shores radio beacons assist in guiding vessels safely past it."

Last year 3,327 Canadian ships with a tonnage of over four million tons passed through the Sault Ste. Marie Canal, to and from Lake Superior, as well as 13,746 American vessels whose total tonnage was 52,409,000 tons.

No. 112. Sat. Jan. 20, 1940 -- Getting Acquainted in School

Probably the surest way to avoid misunderstandings and get along better with people is to know them better. And the easiest time to get acquainted is while we are young.

There never was a time when mutual understanding among people living at a distance from one another was as sorely needed as in our day and age. So it is of interest to notice something of the way in which our schools help young Canadians to become acquainted in other provinces and other countries.

Each year brings over 2,000 full-time students from the United States to our colleges and private schools, in addition to those who come for summer courses. A third or more of these come to our French-language institutions, and probably most of them are from families who were at one time Canadian.

Several hundred come each year from Newfoundland, especially to our Atlantic provinces, and nearly a hundred from the British West Indies who also study mainly in the Maritimes. There is a considerable contingent, too, from the United Kingdom, -- larger than usual this year because of the boys and girls who were touring Canada when the war broke out, and whose parents decided they should remain at Canadian schools rather than go back home. Other countries contribute at least 300 students per year; some are from South and Central America, the Orient and Europe, as well as more distant parts of the British Commonwealth.

There is a very considerable movement of students between provinces. Nearly 5,000 attend colleges or private schools outside of their province of ordinary residence. The National Federation of Canadian University Students, with the co-operation of the universities, in recent years has facilitated this exchange by developing an arrangement whereby students in different universities may exchange places for a year.

No. 113. Sun. Jan. 21, 1940 -- Apricots on the Prairies

Apricots on the Prairies? Surely not! Surely yes. "Luscious apricots," says the Department of Agriculture. Here is the story.

Nowhere is the work of the Canadian agricultural scientist seen to better advantage than in the work of the Dominion Experimental Farm Service throughout Canada, in the production of new grains and in the evolution of fruits that grow where garden fruit had never grown before.

Among the prairie centres of science specializing in fruit production is the Dominion Experimental Station at Morden, Manitoba, where 200 acres of garden land include 100 acres of fruit. In addition to that which has been done before there are more than 10,000 seedling apple trees and 2,000 seedling plums, cherries, grapes and apricots ready to bear fruit this summer.

The apricot, by the way, is now established as a dependable prairie fruit crop. At one time it was considered an impossibility to grow such a sensitive fruit on the prairies. Also, at the Dominion Station at Rosthern, Saskatchewan, where the testing of fruit trees and bushes capable of being grown on the prairies has been carried on for the past 30 years, over 10,000 seedling apples, and 2,000 seedling plums, cherries,

apricots and grapes have been planted, making a total of over 40,000 planted from 1935 to 1938.

In short, fruit production is an important part of the work of several of the Dominion Experimental Farms on the prairies, and their united work in making fruit grow where none had grown before has already proved of great advantage.

Canadians are fond of apricots. We import some millions of pounds of that fruit in its fresh state in a year, chiefly from the United States, as well as apricots canned and dried. We import between four and five thousand apricot trees yearly, almost entirely from the United States.

No. 114. Mon. Jan. 22, 1940 -- Going to Business College

About 120,000 young people in Canada each year, when they have finished or nearly finished high school, go to business college. (By business college we mean the privately owned schools, not the commercial high schools that are part of the public school system). The most common age for taking a business-training course of this kind is 18 or 19 years, but a considerable number start earlier, and many later.

A further 7,000 persons attend the business colleges in the evening. Most of these probably have jobs already, and are interested in improving their qualifications.

The full-time course usually takes about a year -- depending on the previous training and individual ability of the student. The business colleges report that for each full-time student registered in a year, about two-thirds complete a course to the satisfaction of the school. Since 1936 the number obtaining employment on leaving the college has been about the same as the number completing their courses, in the colleges that have reported a record of student employment to the Dominion Bureau of Statistics. For 1938-39, for instance, colleges with 3,647 students reported that 2,371 graduated and 2,454 obtained employment. In the preceding year, 2,666 students out of 3,995 completed their courses and 2,386 found jobs.

The attendance at business colleges suffered a severe drop in the hard times of the early 1930's, but only a very few were obliged to discontinue activities. Practically all cities in Canada with a population of over 20,000 have one or more of such colleges, and about half of the smaller centres, down to those with a population of 5,000. In smaller places they are unusual, although there are 20 thus located.

No. 115. Tues. Jan. 23, 1940 -- Profit in Sheep

Prominent in the effort to increase agricultural production to assist in the adventure of war is the question of sheep raising, according to what we read and hear. A. A. MacMillan, prominent in the Department of Agriculture's activities, has something to say on the subject.

It is generally agreed, he says, that it has always been profitable to raise sheep. Under wartime conditions, the stability of prices for wool and lamb is

already in evidence with the result that there is much new interest in sheep raising. Over a period of the last five years there have been many notable examples of the ability of sheep flocks that have been purchased to pay for themselves in a short period of time and provide in addition extra revenue. As an example, all members of the Carleton, Ontario, Sheep Club organized under the Dominion-Provincial Sheep Club Policy, paid for their breeding ewes in two years without any difficulty. The twenty members in addition to paying for their ewes all have varying amounts of money over and above the cost price and most of them were able to add considerably to the size of their ewe flock by the addition of ewe lambs saved from slaughter.

Another example is the group of farmers, including club members, numbering 42 who established flocks of western breeding ewes which were shipped East during the drought period. All these ewes, with the exception of one flock, gave more than enough returns in wool and lamb to pay the original cost in two years, some of them in one year.

In recent years Provincial dog legislation and more effective measures for the control of dogs in municipalities have given greater security to sheep raisers. Thousands of miles of woven wire fencing to be seen fronting farms on main highways is an indication of the advance that has been made towards good fences. Fencing for sheep is not the problem it was some years ago.

With greater security against dogs, better fences and effective treatment for parasites which is easily administered or applied, the farmer who keeps sheep, if he handles his flock under good management practice, has greater assurance of making money from sheep.

No. 116. Wed. Jan. 24, 1940 -- Safeguard Meat Supply

In a multitude of ways the Civil Servant works for the public; in many ways he is the public's only protection.

What is meant by that remark is a little statement which has just come under our notice, referring to the **care** that is taken by certain civil servants employed for the purpose of protecting the consumer from being placed in the position of purchasing diseased meat.

The statement says that during the last fiscal year the Health of Animals Division of the Government condemned 11,830 carcasses of cattle intended for food during the year ended March 31, 1939. The principal cause of the condemnations, which amounted to 1.38 per cent of the total cattle killed for food, were emaciation and tuberculosis. The number of carcasses of calves condemned was 5,543, or 0.82 per cent of the total slaughtered, the main cause being immaturity. Condemnations of sheep were 0.29 per cent as against 0.31 per cent in the previous year. Swine condemnations totalled 6,768 carcasses, or 0.22 per cent of the total kill. Tuberculosis was the cause in 37.20 per cent of all carcasses condemned, and 72.91 per cent of all portions condemned.

The number of carcasses marked "Canada Approved" was 841,909 cattle; 670,852 calves; 777,964 sheep, and 3,047,972 swine, making a grand total of 5,338,697.

The Department of Health works in close cooperation with the Health of Animals Division and the result is a measure of safety that no unofficial organization could possibly create.

No. 117. Thurs. Jan. 25, 1940 -- Anticosti

In the dying minutes of the day, before we follow the trail upstairs to the land of nod, and when the fire is burning low, our thoughts wander. We wonder sometimes if an enemy submarine or a bombing air craft will try to escape the watchful eyes of our brave sailors or the skilful boys who are patrolling the air, and attempt to come up the St. Lawrence. During the Great War enemy submarines arrived on this side of the Atlantic and did damage.

And we remember that two or three years ago an enemy plan to have some of their nationals secure possession of the Island of Anticosti was thwarted. Anticosti is a great strategic island, of which we do not hear very much.

It is a huge island, roughly oval in shape, lying between the Gaspé Peninsula and the mainland to the north of the Gulf. It is 122 miles long, its greatest breadth 30 miles, and the area is over 3,000 square miles. It is about one-third larger than the much better known Prince Edward Island further down the Gulf. Indeed we know very little about Anticosti. Historians pass it over lightly.

Why we know so little about it is probably because for many years it was privately owned. It was the private sporting preserve of the Menier family, often referred to as the Chocolate Kings of France, who secured possession in 1895. It was probably the largest private holding in North America. Long before that, however, in the 1600's, it was the seigniory of Louis Jolliet. After his death about the year 1700, the island frequently changed ownership. It is now owned by pulpwood interests.

The origin of the name is difficult to trace. Cartier called it Ile de l'Assumption in 1534. Early historians and explorers call it Natiskotek, a Montagnais Indian word which means "where bears are hunted." Bears are still so common that they are regarded as a pest. The name Anticosti is attributed to a Spanish ecclesiastic, and derived from two Spanish words, ante meaning before and costa, meaning the coast. Many folk will regret that the fine old Indian name has disappeared officially. Perhaps one day it will be brought back.

One of the troubles which prevented an exclusive development of the island is the absence of many good harbours. Ellis Bay, now known as Port Menier, is the nearest approach to a sheltered harbour.

Admiral Bayfield, the famous British naval officer who charted the waters of the Gulf, was in Anticosti in 1828, and describes his visit to the scene of a marine tragedy near the east end of the island. He discovered a small hut containing the remains of a shipwrecked crew and the evidences of cannibalism. "There was," he writes in his journal, "a pot in the fireplace with human flesh in it, and some pieces in a large chest. I saw a species of almanac on the wall in chalk."

No. 118. Fri. Jan. 26, 1940 -- The Magdalens

We talk of the Magdalen Islands as the "Graveyard of the Gulf," just as we describe Sable Island as the "Graveyard of the Atlantic." The shores of these islands, or rather the underwater lands close to the shores, are strewn with the wrecks of brave ships that there went down to their doom.

The story of a narrow escape is told in the report of one of the men on board a Canadian Government vessel a few years ago. The ship was riding at anchor in five fathoms in Pleasant Bay, waiting for the fog to clear. Finally it did clear. Someone remarked: "Isn't the beach coming close to us?" There was a cry for "Steam!" says the report, "and we got under way just in time to save the ship from driving on to the sands. The starboard anchor had gotten foul of a sunken wreck and had snapped off at the shank."

It is windy in these islands and the surveyors found hens tethered by the legs to save them from being blown over the cliffs. There are very few trees.

Though dreaded by the mariner, to the landsman, chance traveller, or tourist, a cruise about the islands is an unforgettable delight -- providing he has his sea legs. The view from seaward is unsurpassed and the natural scenic effects are splendid. The central parts of the islands rise to rounded dome summits, from 200 to 600 feet above the sea, and round these are stratified deposits of sandstone and ochreous clays, while in places veins of gypsum show. Many a fisherman's cottage is painted with a mixture of colours dug by himself from the native soil.

Geologists say that the Magdalens once covered an area of 5,000 square miles, or about equal to Prince Edward Island, and now represented by the submerged plateau twenty fathoms under the sea, that drops abruptly from the rocks into the great of the Gulf. Centuries of erosion carried away the soils and swept them out through the entrance to the Gulf to form the cod banks of Newfoundland. Only the cores of the islands were left.

Today there is a reverse process going on. Beaches and sand bars, ridges and dunes are being formed in a remarkable building-up process. The absence of good harbours is a serious handicap, and the launching and beaching of boats is hazardous. A surveyor saw two fishermen driven ashore in their boats and washed away by the under-tow, never to be seen again.

The population of the Magdalen Islands is about eight thousand. The people are mainly Acadians, practically all natives of the islands. The Acadians number over seven thousand and the rest are composed of people of English, Scots and Irish origin. Over seven thousand are Roman Catholics, the remainder Anglicans, with a very few Presbyterians and Lutherans and three Jews. The main industry is fishing with its concomitants.

No. 119. Sat. Jan. 27, 1940 -- Automatic Telephones

Last year in "A Fact a Day" the story of the Automatic Telephone was told. It was reproduced in that well known publication, "Electrical Digest." It brought a very interesting and informative letter to the editor of that magazine from Mr. Stirling Ross, Equipment Engineer with the British Columbia Telephone Company. Mr. Ross says:

In the August, 1939, issue of the Electrical Digest you quoted from data issued by the Dominion Bureau of Statistics relative to the growth and development of Automatic Telephone Systems in Canada, and stated:

"The first of that system (Strowger) in Canada was at Woodstock, Ontario, in 1903, and the second at Sydney Mines, N.S., about the same time."

and continued from there to the Prairie Provinces.

According to my information the first Automatic Telephone Exchange shipped to Canada by the Automatic Electric Company, Chicago, (Strowger System) was sold to the Yukon Electric Company, and was installed at White Horse, Yukon Territory.

This Automatic Exchange was shipped in 1901 and as an extension was ordered and shipped in 1902, it is only fair to assume that this Automatic Telephone Exchange was in successful operation in 1901 or at least early in 1902.

The Yukon Electric Company was founded by Mr. John Wyley and a partner, whose name I do not know. Mr. Wyley, a former employee of the Automatic Electric Company in Chicago, went to the Yukon in 1898 during the famous Gold Rush.

After the White Horse venture Mr. Wyley went to the Prairie Provinces, where he was interested in the development of the Automatic Telephone Systems in Saskatoon and other cities, but I think more in the sales end of the business rather than in the promotion end.

I would very much appreciate if you would transmit this information to the source of your quotation, as I feel that an event of such historical interest should be fully investigated, and credit given where it belongs.

No. 120. Sat. Jan. 28, 1940 --- Reindeer in the Gulf of St. Lawrence

Mention of reindeer suggests the far north, away off in the Arctic. But we actually have reindeer in quite southerly latitudes. In 1923 a number of head of reindeer, part of the Grenfell Labrador herd, were landed at Port Menier, in the Island of Anticosti. They were transported by the steamer Montcalm from Newfoundland.

The passage was a very stormy one and the vessel was not properly equipped for such a cargo. Shortly after landing, a number of the animals died and the remainder have been kept within a limited area near the port under the care of special herders. Latest reports show that the herd is increasing. So in summer, when the tourist business is in full swing, there will be an opportunity for Canadians and their visitors to see these wonderful animals as far south as the Gulf of St. Lawrence.

Anticosti, to which reference was made a few days ago, is a paradise for wild animals. Caribou, woodland or Newfoundland, may be sighted at the eastern end of the island. These do not herd with the deer but keep to themselves in the wooded fastnesses of the interior and no success has been had in making a census of any kind.

Beaver obtain in the northern part of the island. Their propagation is not encouraged and their dams and houses are destroyed wherever found. It is claimed that they interfere with the free ingress of the salmon to the headwaters of the streams.

Really the island is one immense fur farm surrounded by the sea. Not a dog is allowed to land on the shores of this domain, and the only illegitimate foe is the poacher from the mainland. So plentiful are the deer that no restrictions are placed upon employees during the open season. One will often come upon freshly

killed carcasses on the beach or within the woods, where a warden has dropped a buck and taken a haunch along with him for the dinner table, the remainder being left purposely for the foxes, the trapping of which was the main revenue of the Menier estate.

Black and silver foxes abound and the catch in a year runs into thousands of pelts. Fox farming was tried in order to foil the poachers, but was not a success, the pelts of the animals running free being much superior.

Enough has been said to show what a great wild animal preserve is Anticosti.

No. 121. Mon. Jan. 29, 1940 -- Spruce

Spruce forms 39 per cent of the accessible standing timber of the Dominion and 25 per cent of the wood used annually for all purposes. Indeed, Canada's forest industries, particularly the pulp and paper industry, depend to a large extent upon a continuous supply of spruce, according to the Dominion Forest Service. It is the principal wood used in the manufacture of pulp and paper, and ranks second only to Douglas fir in Canadian lumber production.

Spruce is the most widely distributed of any kind of timber, with its range extending from the Atlantic to the Pacific. There are five species in Canada -- black, white, red, Engleman and Sitka. Black spruce and white spruce occur in each province. Red spruce is confined to the Maritime Provinces and Quebec, Engleman spruce to the interior of British Columbia and western Alberta, and Sitka spruce to the coastal region in British Columbia. The Sitka spruce is known in Great Britain as "silver spruce," and is the best wood known for aircraft construction as it is light and resilient and does not splinter or shatter easily with impact.

Spruce reproduction in Canada appears to be at a disadvantage in competition with other less valuable tree species, and investigations are now being conducted to find out the best means of securing adequate reproduction and of increasing the rate of growth of this important species.

No. 122. Tues. Jan. 30, 1940 -- Prize Winning Galore

Canadian breasts swelled with justifiable pride last month when they read in their newspapers that the hardy farmers of the north had carried off hundreds of prizes at the 40th International Live Stock Exposition and the 21st International Grain and Hay Show held at Chicago.

To be exact, the Canadian exhibitors won a grand total of 451 awards. These comprised 18 grand championships, 13 reserve championships, two champion top bull sales, 15 special association prizes, 81 first prizes and 322 other prizes.

Perhaps the outstanding win, which Canadians have come to regard as almost their own, was the wheat championship which was taken by Francis Lloyd Rigby, of Wembley, Alberta, with his Reward wheat, weighing 67.3 pounds to the bushel. Bill Skladan, of Andrew, Alberta, won the oats championship with his Victory variety, the weight being exactly 49 pounds to the bushel. Alexander M. Stewart, of Ailsa Craig, Ontario, won the reserve championship with the Alaska variety of oats, the

bushel weighing 47.4 pounds.

Championships for field beans went to Alberta, and field peas to Ontario. The reserve championship for field peas went to British Columbia. Alfalfa seed championship was won by a Saskatchewan grower and the reserve championship by an Ontario farmer. The corn and soybean championships were won by Ontario.

There was an imposing list of twelve championships for sheep, all won by Ontario farmers, and four in cattle, the winning breeds being Aberdeen-Angus and Shorthorns.

Premier Mitchell F. Hepburn of Ontario walked away with the grand championship for his Clydesdale stallion and won several other championships as well. James Franceschini, of Toronto, won the \$1,000 Horse Show championship in the Harness Pony stake and also the \$1,000 championship heavy harness stake.

It is impossible here to recite all the prize winnings, but if anyone is specially interested, the list may be had from the Department of Agriculture, which is "tickled pink," to use appropriate slang.

No. 123. Wed. Jan. 31, 1940 -- Calves' Stomachs

The ramifications of war are an interesting study, apart from their seriousness. Here is one which seems strange until the reason behind it is known. Under the War Measures Act an Order-in-Council has been passed, at the instance of the Minister of Agriculture, to prohibit the export of the stomachs of calves.

The reason for this is quite definite. Poland used to be a leading source of calves' stomachs, and since the conquest of that country by Germany and Russia, the supply has been cut off to Canadian buyers. Rennet is manufactured from calves' stomachs and it is a coagulating agent used in the manufacture of cheese. The making of cheese is an important Canadian industry.

As a consequence it is now necessary to conserve the Canadian supply of calves' stomachs, in order to make rennet for our own cheese makers. So the export of such stomachs is prohibited. A very interesting lesson in Canadian national economy.

Our imports of rennet are over 100,000 pounds in a year, the principal supplier to Canada being Denmark. We get a comparatively small quantity from the United States.

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DEPARTMENT OF
TRADE AND COMMERCE



CANADA

A FACT A DAY ABOUT CANADA

FROM THE

DOMINION BUREAU OF STATISTICS

FEBRUARY 1940

SIXTH SERIES

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James Muir,

Editor.

from the

Dominion Bureau of Statistics

No. 124. Thurs. Feb. 1, 1940 -- Utilizing Sea Lions

Control of the Sea Lion is a headache on the Pacific coast. It preys on the salmon runs and other fisheries. It does immense damage.

Now, however, there is a prospect that the sea lion will be put to industrial use. The carcasses are to be used in food products for the fur farms, particularly those of British Columbia.

The Sea Lion is the name given the larger members of the eared seals. The largest species is the northern sea lion from the North Pacific and Behring Sea; it reaches 13 feet in length. The Patagonian sea lion possesses a distinct mane and small ears, and the Californian form is much smaller. The Californian sea lion is the commonest species in captivity and is well known for its intelligence, activity and hoarse, barking voice. It is about double the length of the fur seal.

The big sea lion of the North Pacific has wrought much mischief, not only to the salmon runs, but to the nets of the British Columbia fishermen generally. So fishermen in recent years have pressed for control to prevent concentration of the troublesome mammals in productive areas. A measure of control of the size of the sea lion herds is at present provided by the Department of Fisheries who conduct annual hunts at the points most frequented by the seagoing trouble makers, and at points where their destructiveness has been most in evidence.

From time to time attempts have been made to utilize the sea lion commercially. Only a partial measure of success was achieved and as a result the animals have been left virtually unexploited. Experiments were carried out more recently in tanning sea lion hides into leather for glove manufacture. Apparently a product of quite good quality was secured but the possibilities of any considerable business in this field are still obscure.

The new proposal is that fishermen or others will shoot the sea lions and deliver them at points where facilities are available to ice the carcasses. They will later be removed to a freezing establishment where they will be frozen and preserved as food for the fur bearing animals of the various fur ranches.

The experiment will be made under close observation of departmental officials to determine the number of sea lions taken and to assure that full and proper utilization is made of the carcasses. It is not at present proposed to license the persons or firms engaged in killing the animals, but if operations become intensive such a course may be necessary for control purposes and to ensure that no threat of extermination of the herds is involved.

No. 125. Fri. Feb. 2, 1940 -- The Story of Seals

From time to time a good deal has been said about sealskin and the seal markets but not much of the story of the seal itself, nor of the seal-hunters. This is suggested by yesterday's Fact about the hunting of the sea lion.

Seals, and particularly walruses or "morses" were taken in the North Atlantic,

on the border of the Arctic, by whalers from the beginning of northern whaling in the early 1600's, for their skins, blubber and tusks. The tusks were an ivory somewhat inferior to the ivory of Africa. In the most prosperous days of northern whaling the whalers neglected seals, but towards the end of the 1800's, the whalers were again glad to include them in their catch. Sealing as a separate occupation had meanwhile developed in the 1700's and early 1800's. The pelts were at that time more valuable than at any later time.

The Greenland seal and the hooded seal are the chief species taken. The grey seal and the common seal are not at present commercially exploited, although the common seal is killed by fishermen under the conviction, not at present too well founded, that it causes great depredations among the food species.

Atlantic sealing occurs in the spring and early summer from Nova Zembla to Newfoundland and Labrador. Sealers sail for the eastern grounds mainly from Norwegian ports, and to the western grounds chiefly from Newfoundland and United States ports. There are international agreements regarding the periods of hunting.

The fur seals differ from those mentioned because they possess a permanent under coating of short, soft fur, which is the sealskin of the furrier. They were opened to exploitation by the voyage of Behring in 1741 in the Pacific-Arctic zone. Their migrations cover great areas, from the latitude of southern Japan on the west and from southern California on the east, to the great rookeries on Commander and Pribiloff Islands in the north respectively.

Seals in the North Atlantic are estimated at about 600,000. At one time in the North Pacific there were millions, but the herds were greatly reduced by indiscriminate slaughter. Now the take is regulated by international agreement. The fur seal adult male is about six feet long and four and a half in girth.

Formerly the fur seal was common in southern seas and the Antarctic, and was abundant in South Georgia and the Falkland Islands. In two seasons, 1820-21 and 1821-22, it was estimated that 1,200,000 fur seals were taken from South Georgia and 320,000 from the South Shetlands alone, with 940 tons of elephant seal oil.

The chief modern sealing of that region is for the elephant seal. Elephant seals are of great size, the males sometimes 20 feet in length, the females eight or nine feet.

No. 126. Sat. Feb. 3, 1940 -- Reward Wheat

It will have been noted that Reward Wheat was the variety which brought championship to Canada at the recent international competition at Chicago. What is Reward Wheat?

Reward Wheat is the product of the Central Experimental Farm at Ottawa, whose contribution to agricultural progress in Canada is one of the marvels of our economic life. A scientific agriculturist by the name of Saunders, who earned a humble salary, gave Canada one of its great gifts with his Marquis wheat. In his declining years he was knighted by the King, which event helped to bring home to his countrymen the service he had rendered.

Now Reward Wheat is a cross between Marquis and the early maturing variety Prelude. That cross was made in 1911. In 1928 it was released for by growers

and has been the title-winning variety at Chicago in recent years.

The Reward Wheat, which was the championship in 1938 and 1939, was grown on the farm of the Rigby family near Wembley, Alberta. It was from certified seed supplied two years ago by the Dominion Experimental Farm at Beaverlodge, Alberta.

There is more than an ordinary story behind the winning of the wheat championship two years in succession by young Lloyd Rigby. The "wheat king" is 21 years old and a first year student in agriculture at the University of Alberta. Last year his brother, Justyn Rigby, 24 years old, won the international oats championship.

Now, the point is that the Rigby family successes in grain growing started from membership in the local club in their famous district of the Canadian Boys and Girls Farm Clubs.

By the way, the International Wheat Championship has been won by Canada 25 times in 29 consecutive years. Twelve times the championship has gone to Alberta wheat growers.

No. 127. Sun. Feb. 4, 1940 -- Boys' and Girls' Farm Clubs

Following up what was said yesterday about the success of an Alberta farm family in winning championships because of what they learned at their local Boys' Farm Club, some very interesting information might be vouchsafed regarding those clubs. The motto of the clubs is "Learn to do by doing."

The Department of Agriculture made the following definite statement in the fall of last year: "In all agricultural fairs and exhibitions that have been held throughout the Dominion so far this year, no feature has been so outstanding as the work of the Boys' and Girls' Farm Clubs."

This junior division of Canadian agriculture is composed of the many and varied junior farm clubs in all the provinces, the provincial and district grain, potato, calf, swine, poultry and other clubs which are all co-ordinated through the medium of the Canadian Council on Boys' and Girls' Farm Work.

The reason of the spectacular success made by the clubs in the competitive lists of the exhibitions is readily apparent, for not only have the young farmers and farmettes of Canada produced exhibits of the highest quality but by their ardour and enthusiasm are giving a new leadership to Canadian agriculture.

There are many projects embodied in the programme of the work of the Boys' and Girls' Farm Clubs of Canada -- live stock, field crops, horticulture, and home economics. As results of this work, potato production in one area has been revolutionized; in other districts, production of live stock has been raised to a high standard and in other areas thousands of bushels of grain have been added to production.

Particular examples of excellent work were seen at last year's Ottawa exhibition when 177 boys showed high-quality calves they had acquired and reared as part of their club work; also at the Lakehead Exhibition at Port Arthur where a young farmer exhibited no less than 11 animals and the champion Holstein cow, all acquired as a result of his calf club work.

In Alberta, 74 wheat clubs, approximately 1,385 boys, have built up a substantial supply of excellent seed for the province by seeding over 5,500 acres to registered, certified, and improved wheat seed. In Ontario and other provinces, several fine herds of cattle can trace their establishment to what the boys and girls of these clubs have been doing. In short, the fine work of the junior division is being carried out with enthusiasm in every province.

The Boys' and Girls' Farm Clubs represent an active membership of about 40,000, and every year since the movement began 25 years ago the membership keeps on increasing.

No. 128. Mon. Feb. 5, 1940 — Fruit Juices

Fruit juices have become so popular that some remarks upon the method of preparing them may be worth while. The extraction of the juice from such important citrus fruits as orange, lemon and grapefruit, is carried out on the same principle as we do it at home with the common glass extractor. The usual method is that after the whole fruit has been washed it is cut in half at right angles to the axis of growth and the juice extracted by pressing the halved fruit against a revolving conical-ribbed or grooved extractor or burrer. By adjusting the speed of the burrer it can be so arranged that the inclusion in the juice of any considerable amount of pith and essential oil from the peel can be avoided.

The juices are usually diluted two or three times in making up beverages, and some preservative such as sulphur dioxide is added. In the case of orange juice a certain amount is prepared in the concentrated form in order to save bulk in shipment, and the juice is roughly filtered before concentration.

It is interesting to observe that the demand in the United Kingdom is for cloudy citrous fruit juices. The removal of suspended matter, though in some cases improving appearance, often detracts considerably from the colour, flavour and nutritive value of the expressed juices. The colour and flavour of orange juice depends to a large extent on the suspended particulars which it contains, and the removal of these gives a straw-yellow product lacking aroma and flavour. Orange juice is therefore now seldom prepared in the clear form.

The efforts in the United States to market citrus juices in a form closely resembling the natural juice has involved additional stages in their preparation. The modern method of manufacturing citrus juices which is carried out extensively in the United States proceeds along the following general lines. After the screening of the juice to eliminate the seeds and coarse pulp, it is subjected to a process of de-aeration, that is, the removal of the occluded air in the juice by means of vacuum treatment. De-aeration is accomplished by passing the juice in the form of a fine spray into an evacuated tank. This removes any air which has been occluded in the juice and in the fruit particles. After the tank is partly filled the juice is held under a vacuum of at least 27 inches for about 10 minutes. The vacuum may then be relieved, preferably with an inert gas such as nitrogen.

If a clear juice is required, the method most generally applicable depends on the fact that by heating the juice the colloidal matter is coagulated and will then settle readily and can be removed by filtration. It should be remarked that grapefruit juice has better keeping qualities than either orange or lemon.

We import considerably over a million gallons of fruit juices in a year, most of which come from the United States.

No. 129. Tues. Feb. 6, 1940 --- Brazil Nuts

The Brazil nut trade has roughly doubled since the opening of the Great War. The United Kingdom and the United States are the chief consuming countries, production being entirely a Brazilian monopoly, although some nuts are obtained from Bolivia. The tree has been introduced into Ceylon and Malaya, and botanical studies of the limited material in those countries suggest that quite possibly only one species actually exists. Whether this is so or not, it seems quite likely, judging from the variation shown in the nuts coming from wild trees in Brazil, that cultivation of the tree would bring to light a number of different strains.

The Brazil nut tree is indigenous to the Amazon basin, where it is known as "castanheira," the nut itself being called "castanha do Para." The nuts are at present obtained almost exclusively from trees growing wild in the states of Para and Amazonas, in which there are a number of important producing districts. Either the trees and the land are in definite ownership, or else harvesting rights are owned. Little in the way of cultivation is nominally undertaken, but in more recent years some attention has been directed to the establishment of plantations. The tree grows naturally in clumps or groves in the forest and is to be found at some distance from the waterways as it does not thrive on swampy land. Some trees are found on raised ground close to the river. In districts where the tree grows, the temperatures recorded show little variation from month to month.

Brazil nuts are much favoured in Canada, and we import annually considerably more than two million pounds, shelled and unshelled.

No. 130. Wed. Feb. 7, 1940 --- Juvenile Delinquents

It will occur to most people, as indeed it is a fact made plain regularly by reports in the Press of Canada, that the Dominion has made substantial progress in the control of juvenile crime, although the devil is always afoot.

There is no doubt also that the improvement observed is due directly to the good influence and wise understanding that juvenile courts and the magistrates who preside over them, have exercised. The imp of mischief is strong in most children and in older days when the little mischief-makers were unfortunate enough to get into the hands of the law, instead of being just draped across their father's knee, they were apt, through that terrible experience, to take to the down grade

We do better nowadays and so we find that not so many new criminals, comparatively speaking, are being made. A very large number of those who now come before the courts are incorrigible. Some statistics will make this clear.

The most recent yearly record available, with all its ramifications, is for 1938. The returns of juvenile statistics for that year show a marked decrease in the number of cases brought before the courts as compared with the 1937 figure. The decrease totals 746 or 7.71 per cent. That is quite a notable reduction,

especially when one is reminded that increases in Quebec and Manitoba in 1938 were more than neutralized by decreases in all other provinces.

In 1938 the total number of delinquents dealt with by the courts for major offences was 5,055, of whom 3,537 appeared for the first time, 767 twice, 357 thrice, 144 four times and 250 five times. The total number of repeaters was 1,518. The number of delinquents before the courts in 1937 was 5,224. The proportion of repeaters in 1936, 1937 and 1938 was greater than for the average year.

Out of 5,055 juvenile delinquents convicted of major offences, 4,837 were born in Canada and 218 in other countries. Of Canadian born delinquents, 3,268 had both parents born in Canada, while 339 had one parent born abroad.

The bulk of the charges under which delinquents were convicted was theft in its various forms.

No. 131. Thurs. Feb. 8, 1940 -- Some Facts about Wheat Flour

To those of us who have practically no knowledge of the making of wheat flour, that commodity which in itself makes Canada known throughout the world, it is an entrancing mystery how that fine, smooth substance is made. In general we have an idea that something in the nature of rolling mills or crushers does the trick. But there is a good deal more to good flour making than that.

The wheat berry is somewhat barrel-shaped. At the top is a tuft of hairs, which is appropriately called the beard. At the lower end on the outer side is a small peculiarly shaped protuberance which indicates the position of the germ beneath the bran. On the opposite inner side is a deep furrow running the whole length of the grain. This is the crease which harbours dust and micro-organisms and which creates difficulties in the cleaning operation preparatory to milling.

Cut a transverse section across the grain and examine with a lens the internal structure of the berry. Beginning from the outside inwards, the outer skins form the bran.

There is a single layer of rectangular cells full of minute grains of nitrogenous matter. The function of these cells is to supply the young growing embryo with its proper nitrogenous food. The starch-containing cells are packed full of starch granules of varying size, and the spaces between the cell walls are probably filled with the substances known as glutine.

The germ, or embryo, of the wheat berry is a somewhat triangular looking body, of a yellowish, buttery appearance when the grain is new. If the grain is old, however, the germ will be dark almost to a deep brown in colour and the taste much less pleasant. Wheat germs which come from the mill are pale, yellowish disks varying from 3/16 to 1/4 of an inch in diameter. When in a suitable condition for food, the germ must possess a pleasant, oily smell and an agreeable, greasy flavour. In a decomposed state the germ is dangerous to health.

The object of the miller is to separate the endosperm or floury portion from the bran coat and the germ, and to reduce the floury portion to fine flour. This is only possible because the bran and germ are far tougher than the endosperm. The successful miller is able to effect a thorough separation of the endosperm from the

germ and bran to produce a type of flour that will be clean and white and with good keeping qualities.

The constituents of the wheat kernel are over 83 per cent endosperm, which is largely of starch content, 15 per cent bran and $1\frac{1}{2}$ per cent germ. The germ is rich in fat and when loosened in the breaking process it may be graded with the coarser middlings, which are generally known as germ middlings. The wheat germ is good material in preparing human food such as in fortifying cereal products, but at the present time it is difficult to keep the wheat germ oil from becoming rancid; therefore the germ has to be separated completely from the finished flour.

Canada exports annually four or five million barrels of wheat flour, of which considerably more than half go to the United Kingdom alone. The value of the export is about 16 or 17 million dollars.

No. 132. Thurs. Feb. 9, 1940 -- Hatchery Fish

Over 34,300,000 little fish went from the hatcheries of the Dominion Department of Fisheries into suitable waters of the Maritime Provinces and British Columbia during 1939, representing the efforts of the Fish Culture Branch to offset the reductions made in Canada's fish population by commercial fishing, angling, and natural losses. Most of these little salmon and trout had been carefully fed in hatchery ponds before liberation and all reached their new homes in a strong and vigorous condition.

The "planting" was part of the regular programme of maintenance and improvement of fisheries in areas where the fishing is under Federal administration.

Atlantic salmon led the distribution list with 21,300,000 of this species planted in all. There were 11,600,000 speckled trout placed in the various streams, while over a million sockeye salmon were distributed in British Columbia waters. Sebago salmon, Kamloops trout, and Rainbow trout were the other species making up the total distribution.

Nova Scotia led the distribution by provinces, with 17,200,000 fish planted. Of the total in this province, 9,200,000 were Atlantic salmon, and 7,700,000 speckled trout. There were 14,300,000 fish placed in New Brunswick streams, of which 11,300,000 were Atlantic salmon and the remainder speckled trout. Prince Edward Island had plantings of 1,700,000 fish made up of Atlantic salmon and speckled and rainbow trout.

The greater part of the plantings were fingerlings, some yearlings, and particularly among speckled trout, adult fish up to four years old were set free. These were fish held in the hatcheries as brood stock but replaced during the year with younger fish.

No. 133. Sat. Feb. 10, 1940 -- Manufacturing Silk Stockings

The manufacture of silk stockings has become big business in Canada. There is no room for doubt about that. Even in winter cold the silk stocking is very much in evidence on every street of every city, village and town. It is generally accepted by the feminine population, and the fashion, which was set by Queen Elizabeth in the

long ago days before the crowns of England and Scotland were united, is now part and parcel of our cost of living in Canada. The manufacture of silk stockings in the Dominion, both pure silk and mixed with other materials such as wool, as well as artificial silk and its mixtures, runs to over 42 million pairs in a year, with a factory value of close to 17 million dollars.

Accordingly, some of the highlights of the manufacture of hosiery are of more than passing interest. These were given at a meeting of Patent Examiners in Ottawa recently.

Raw silk arrives at the mill in skeins which are covered with gum left there by the silk worm. The skeins must first go through a soaking process to render the strands pliable. The single strands of silk are then unwound from the skeins and several of them twisted together to form a thread. This thread is wound on to cones which are set on the knitting machines. These machines knit in a flat piece the main part of the stocking without the foot. This piece is then transferred, manually, stitch by stitch, to another machine, where the foot is knit. A third machine is used to sew up the heel and toe, and another machine to sew the seam up the back.

It is interesting to note that the Germans have developed a machine that knits both the leg and the foot on the same machine. A few of these machines are now installed in Canada. Throughout the knitting process the control of temperature and humidity is an important factor.

The most complex and interesting part of the process occurs in the dyeing, where colours must be matched to a standard, where the cotton parts of the stocking must be dyed to the same shade as the silk parts, and where each different size of stocking must be kept track of.

No. 134. Sun. Feb. 11, 1940 -- Recent Progress in Finland

The progress achieved in Finland in all fields of endeavour during the past two decades and particularly during the last six or seven years has an important bearing on the electrical markets of that country, since it has greatly augmented the demand for a large variety of commodities. This progress, which has frequently been described as amazing, can be visualized with the help of a few statistical data.

The area of cultivated land increased by about 600,000 hectares (1 hectare equals 2.47104 acres) during the period 1920-38, while the per hectare yield, because of more intensive methods of tilling, has continued to grow. From an average value of 4,239,789,000 Finnish marks during the period 1921-25, the value of Finnish crops advanced to 7,588,566,000 marks in 1937.

No less conspicuous an advance was attained by the manufacturing industries in the same period. From a total of 117,229 workers employed by Finnish industries in 1920 the number increased to the pre-depression high of 169,180 in 1928 to decrease to the depression low of 127,222 in 1932. Thereafter the number increased rapidly to 207,506 in 1937, the latest year for which statistics are available. The gross value of production increased from 9,556,221,000 marks in 1932 to 21,076,045,300 in 1937.

Foreign trade value has doubled since the depression. It increased from a total turnover of 7,921,400,000 marks in 1931 (8,133,780,000 in 1932) to 13,686,147,000 marks in 1937 but decreased to 17,005,300,000 marks in 1938. Electric power generating

and transmission developments have been extensive. From somewhat more than one billion kilowatt-hours consumed in 1930, the use of electricity increased to about two and three-quarter billion in 1937, and to more than three billion in 1938.

No. 135. Mon. Feb. 12, 1940 -- Ice Box Flowers

A new industry has sprung into being, or rather an astonishing development of a very old industry. It is the making of Ice Box Flowers.

Years ago there was no difficulty in telling whether the flowers in a lady's corsage, or the little decoration in the lapel of a gentleman's evening coat, were artificial or not. Even at a distance there was a difference, for the real thing wilted as the night wore on but the artificial variety remained sprightly.

There is an ice box flower factory in Toronto which, so far as the Bureau of Statistics knows, is the only one of its kind in Canada. It is said to be the largest in the British Empire. The industry is only about six years old. It began in a private home, with a family of three the working staff. Today the business is housed in a factory and there are about one hundred workers.

These new artificial flowers are as close an imitation of the real thing as can be made. The blossoms are perfumed. A very wonderful thing about them is that, when the flowers are crushed, as flowers will be at a dance, they can be restored to their pristine elegance by confining them in the refrigerator for a little while. Thus there is another use for that modern complement of the kitchen. This ability to come back to life under cool and moist conditions is what has given the name "ice box" to those artificial flowers.

What has made this industry possible was the discovery that the pith of the tushia tree could be used for making petals. The tushia tree grows on the Island of Formosa off the coast of China, familiar to many Canadians as a centre of missionary activity. The pith has a soft, velvety texture and when dyed resembles both in touch and appearance petals of natural flowers.

There being only one firm manufacturing these Ice Box Flowers, the Bureau does not make public the production figures, but an indication of its extent may be gathered from the fact that some 1,500 Canadian brides last year wore them at their weddings.

No. 136. Tues. Feb. 13, 1940 -- Banishing Wheat Rust

In its effort to stimulate agricultural production to meet the needs of war, the Department of Agriculture is now capitalizing upon the splendid service its scientists have rendered the Dominion. We are all familiar with wheat rust and the dreadful losses it has caused in the past. But we are also familiar with the successful efforts made to combat the evil.

The recent development of rust-resistant varieties of bread wheats is one of the most notable contributions scientific research has yet made to the industry of Agriculture, states Dr. J. M. Swaine, Director, Science Service, Dominion Department of

Agriculture. Canada's cereal breeders had produced remarkably fine varieties of common wheat such as Marquis and Reward, but they were all susceptible to injury or destruction by black stem rust. The spores of the rust fungus are swept up from the south by air currents when the young wheat is growing rapidly. In years when conditions are favourable, the infection sweeps over the eastern and northern prairies, causing the most appalling losses in the yield and grades of wheat.

Extremely heavy losses occurred in the years 1904, 1916, 1923, 1927, 1935 and 1938. The losses from stem rust in 1916 alone were estimated at \$10,000,000. In 1935 about 85,000,000 bushels were lost as a result of rust. Since about 1920, cereal breeders and plant pathologists of Canada and the United States have been endeavouring to produce strains of wheat that would be resistant to black stem rust. The Canadian work has centred at the Dominion Rust Research Laboratory, Winnipeg, staffed by pathologists and cereal breeders of the Dominion Department of Agriculture. Important work has also been done at the Dominion Experimental Farm, Brandon, Man., and at the University of Saskatchewan, Saskatoon. The work has been co-ordinated by two joint associate committees of the National Research Council and the Dominion Department of Agriculture. The United States workers have produced a variety, "Thatcher," resistant to black stem rust, which has been already widely distributed in the eastern part of the Canadian prairies.

The Dominion Rust Research Laboratory has recently issued two new rust-resistant varieties, "Renown" and "Regent," and the University of Saskatchewan has distributed another variety, "Apex," all of which are being multiplied and distributed as rapidly as possible. Other and possibly better productions are now being perfected. The new varieties will rapidly replace the old susceptible ones in the rust areas of the prairies, and the great losses from rust epidemics should soon cease to occur.

No. 137. Wed. Feb. 14, 1940 -- Animal Nutrition

Banishing wheat rust, which was referred to yesterday, is an important contribution to the war effort of Canada. None the less important, however, is the question of Animal Nutrition. We must have cereal food, but also we must have animal food, in the form of milk or meat. In that connection, therefore, it is of extreme importance to fix in one's mind some definite and fundamental ideas on the subject.

In the nutrition of domestic animals, chemistry and physiology have made great advances, observed Dr. J. M. Swaine, Director, Science Service, Dominion Department of Agriculture, in a recent address to the Royal Society of Canada. With nutrition, as well as with disease, researches on animals and man are closely linked. The discovery of the special values in young forage is having a marked effect in live stock feeding. When properly prepared from young plants, hay contains minerals, proteins and vitamins in concentrated form. Cereal grass and legumes cut in the young and rapidly growing stage, properly dried and ensiled so as to preserve the carotene content, are now used extensively in live stock feeding.

The poorer classes of the Finnish population receive a large part of their vitamin supply in the winter time from milk, of which they consume relatively large quantities, states a recent report. The vitamin A content of the winter milk was found to be only about one-third as high as that of summer milk, when cows were fed in the ordinary way. Finnish bio-chemists worked out the following procedure: Clover and lucerne, which could be frequently cropped, were cut in the green stage and ensiled in a special way so that the carotene content was largely retained, and when this ensilage was fed to cows it was found that even in winter the vitamin A

content of the milk was as high as in summer milk; sufficient, that is to say, to provide the human requirement in quantities of milk that could ordinarily be purchased and used.

No. 138. Thurs. Feb. 15, 1940 -- Growing Hardwoods

Canadian timber operators would do well to pay more attention to hardwoods, according to the Dominion Forest Service, which points out that on 40 per cent of the forest lands in Canada hardwoods are an important factor. Canada at war has emphasized this importance. The hardwoods, which include all broad-leaved trees, comprise about 22 per cent of the total cubic volume of timber of merchantable size on accessible areas. According to the latest available figures, the accessible stand of merchantable hardwood timber in the eastern provinces -- Prince Edward Island, Nova Scotia, New Brunswick, Quebec, and Ontario -- amounts to 23,339 million board feet of saw timber size and 216 million cords which might be used for fuelwood or other purposes. Though there are more than 90 species of hardwoods or broad-leaved trees in Canada, the principal ones from the standpoint of abundance and commercial importance are yellow and white birch, sugar and red maple, poplar, beech, basswood, ash, elm, red and white oak.

In the past hardwoods have been to a large extent overlooked by timber owners, who seldom even include the amount of hardwood in the estimates of the timber on their limits. The use of air photography for forest inventories is now supplying more information in regard to the hardwood resources. Among the principal reasons that the hardwoods have been ignored are that the forest industries have been interested primarily in the softwoods, and that the practice in logging in Eastern Canada is to float the logs from the woods to the mills. Conditions are now changing owing in part to a growing appreciation of the utility of Canadian hardwoods, and also to the increasing use of mechanical logging equipment and truck transportation.

While hardwoods comprise about 40 per cent of the total annual cut of wood for all purposes including fuelwood, only about 6.5 per cent of the lumber is hardwood. The principal uses for hardwood lumber are flooring, interior finish, doors, furniture, turnery, agricultural implements, vessels and plywood. Hardwoods are also being used to an increasing extent for railway ties and pulpwood.

The growth of hardwoods should be promoted, especially on the more accessible areas such as farmers' woodlots. The ideal forest is composed of a mixture of softwood and hardwood. Not only does this mixture maintain better soil conditions, but the association of the species produces higher quality wood of both classes. Mixed stands are also less subject to serious insect attacks and to the spread of diseases, which are nearly always confined to one species or at least to one genus of trees.

No. 139. Fri. Feb. 16, 1940 --- Potash

Potash has become very important these war times and, since the amount that Canada produces for fertilizer purposes is very small, it is desirable to conserve and use to the best advantage such local potash-bearing materials as wood ashes, says the Chemistry division of the Department of Agriculture.

Potash was originally a vegetable alkali obtained by leaching wood ashes, evaporating and calcining, commonly called carbonate of potash or pearl-ash. Soda and potash were not distinguished by old-time chemists, but in 1807 Davy, the great English chemist, separated them. Various plants take up potash salts and the refuse of beet-roots has been utilized as a source of potash. After the electrolytic production by Davy and others, it came to be understood that a metallic element was being dealt with and potassium was developed.

Prior to the First Great War the world's supply of commercial potash came almost wholly from mines in Germany and Austria, but it was common knowledge to geologists everywhere that potash occurs very extensively in nature, being a component of granites and most other igneous rocks. It is estimated to form three per cent of the world's crust and in the dry saline matter from evaporated river waters there is generally about two per cent of potassium oxide and in the ocean from one to two per cent.

Germany never regained the trade in these fertilizers that she lost in the First Great War. While we had been getting some large quantities from that country the bulk of our supplies now come from other countries, chiefly the United States.

Says the Department of Agriculture: The pure ash of some woods contains as much as 11 per cent of potash, but in practice this high figure is never attained, mainly because varying amounts of soil, charcoal, and other extraneous materials are present in domestic wood ashes. In some samples analyzed by the Division of Chemistry, Science Service, these impurities have been as high as 60 per cent.

Wood-ashes should be kept under cover, for when they are exposed to rain the normal four per cent to six per cent potash is reduced to two per cent or less. The largest constituent of wood-ashes is carbonate of lime, which may amount to 70 per cent of the freshly burnt ash.

Wood-ashes, owing to their high lime content are particularly adapted to acid soils, especially acid peats and mucks. Their potash content makes them desirable for clover and mangels, both heavy consumers of lime and potash. They should not be applied to potatoes, since their alkaline nature encourages the growth of scab.

In addition to potash and lime, wood-ashes contain some two per cent of phosphoric acid which gradually becomes available.

Suggested rates of application are 1200 to 1500 pounds per acre, which, if the ashes are clean and unleached, should supply 60 to 70 pounds of potash, 600 to 1100 pounds of carbonate of lime, and 24 to 30 pounds of phosphoric acid.

No. 140. Sat. Feb. 17, 1940 — Choosing Fertilizers

There is a great and growing desire on the part of the Canadian people to grow food this summer to an extent never before accomplished. It will be very helpful in winning the Second Great War. Here, then, is some helpful information on the subject of Fertilizers from the Department of Agriculture.

Choosing a fertilizer for a specific crop is a matter which should receive careful consideration. The selection of a suitable mixture is less difficult when information is available in regard to the amounts of available nitrogen, phosphoric acid and potash of the soil, the soil reaction, and response of crops to previous

fertilizer treatments. Ability to interpret plant food deficiency symptoms is also helpful in arriving at the needs of the crop for additional plant food. In many instances, however, this information is not available to the farmer, and in such cases the nature of the soil and its past manurial treatment and cropping may be taken into account to good advantage.

Clay soils are by nature more plentifully provided with the mineral plant food substances than are sandy soils; the latter being more open and containing less colloidal mater may lose an appreciable amount of their available nitrogen and potash through leaching, particularly where the soil is low in organic matter. Thus, on light sandy loams it is customary to apply a fertilizer mixture, such as a 4-8-10 containing a high proportion of potash and sufficient nitrogen to result in satisfactory vegetative growth. Lack of sufficient nitrogen in the soil is usually reflected in the pale appearance of the plant.

Peat and muck soils, consisting largely of plant residues, are usually deficient in mineral matter; in their fertilizer treatment potash is generally of more importance than phosphoric acid, and some nitrogen in available form may be required to encourage early growth. Thus the application of a mixture such as the 2-8-16 to muck soils is common practice.

Generally, when the soil has been enriched by applications of manure the supplemental fertilizer may be smaller in quantity and need not contain such a large proportion of nitrogen and potash as would be desirable where no manure has been, or is being applied. To meet this condition a 2-12-6 mixture may be used. On well-manured soils the application of superphosphate alone is often sufficient to produce good yields.

Yields which may be obtained from the use of fertilizers are frequently limited by an unsuitable soil reaction and a low organic matter content. These limiting factors should be corrected if maximum results are to be obtained.

No. 141. Sun. Feb. 18, 1940 -- Cobaltized Salt for New Zealand Sheep

Here is a very illuminative bit of information which shows how Canada is playing her part in the Empire war effort outside her own wide borders. It is a little bit of cooperative effort with New Zealand, which is revealed through Canadian trade figures with our sister Dominion in the Antipodes.

It seems that the veterinary authorities in New Zealand during the past few years have observed an increase in deficiency disease amongst sheep. The importance of sheep to New Zealand is immense, far, far more important than to Canada, comparatively speaking.

It has been found that a minute proportion of cobalt in the diet is indispensable to the health of sheep and cattle, although cattle require less than sheep. Without this very small quantity of cobalt their systems are unable to absorb and utilize either iron or copper, though there may be an ample supply of both in the pastures.

The New Zealand Department of Agriculture conducted a series of observations and experiments in the districts affected and made recommendations. The most important corrective suggested was the importation of agricultural salt, sufficiently mixed with

cobalt, to be used as a lick.

This originated the cobaltized salt block in the Canadian salt industry and, if we can forget for a moment the value of that little industrial development to Canada, and regard the matter in its highest aspect, Empire cooperation, it makes a very real contribution to the economy of the British Family of Nations.

The salt comes from the inexhaustible deposits near the city of Windsor, Ontario, and the cobalt is drawn largely from the mines at Cobalt, Ontario. Cobalt is a metallic element closely allied to iron and nickel.

No. 142. Mon. Feb. 19, 1940 -- The Snowshoe

Tempora mutantur. The Canadian boy of today, when making his approach to his Dad -- considerably less timid than was the approach of his father to his grandfather years ago -- for winter sport equipment, almost invariably asks for skis. His sister makes the same chime.

The Dad of today has nothing against skis whatever. Indeed, he likes to see the youngsters travel farther afield than he was able to do. Yet he has a qualm or two when he hands out the wherewithal for a pair of skis, which is just the beginning of an expense for additional accoutrements which were far beyond the dreams of his own days of puberty.

He tries, but oh, so unconvincingly to his son, to tell of the glories of the snowshoe trail of the old days, and the glitter of the ice after a January thaw, when skates were donned, and travel was taken on the rivers and lakes that made the skating pilgrimages of Christopher North to the Borderland of Scotland pale into insignificance. Even these skating thrills that the "Noctes Ambrosianae" gave his father are of only passing interest to the lad. No, it must be skis. And the old snowshoes that have lain in the attic for many a long year are to remain there still longer, simply a relic of days that are gone. It must be skis. Everybody on the street has skis, even some of the old boys and the old girls as well.

However, the snowshoe is not yet dead. Even if the herring trail is seldom to be seen on the snow as far as the suburbs of the cities, there are lots of them still around the country. The snowshoe will ever have a place in our winter scheme, maybe less for sport, but indispensable just the same. The factories are still turning out two or three thousand pairs a year and that does not include the home-made article, such as that relic in the attic which was fondly and beautifully fashioned long ago by a clever Cree on the banks of the Missinaibi River.

No. 143. Tues. Feb. 20, 1940 -- Fish Culture in National Parks

More than two and one-half million trout fry and fingerlings were distributed from fish hatcheries maintained in the national parks during 1939. About one and one-half million of the fry and fingerlings were used in re-stocking operations in Banff, Jasper, Waterton Lakes, Yoho and Kootenay National Parks in Alberta, while the remainder were distributed in provincial waters outside of the parks.

Fish hatcheries are operated in Banff and Waterton Lakes National Parks, and play an important part in maintaining the supply of game fish in the mountain parks and in the province. Yoho and Kootenay National Parks and many provincial fishing waters are served by the Banff hatchery. Provincial distribution is also made from the hatchery at Waterton Lakes. A sub-hatchery is operated in Jasper National Park, which supplies fry for the waters of that park only.

The fish reared in the park hatcheries are nearly all trout; mostly rainbow, cut-throat, speckled and Loch Leven. Newly hatched fish are known as fry until about eight weeks old. From eight to twenty weeks, they are No. 1 fingerlings, from twenty to twenty-eight weeks, No. 2, and fingerlings more than twenty-eight weeks old are classed as No. 3. Up to the present the fish distributed have been almost entirely in these four grades, but now that rearing ponds have been provided a large number of yearlings will be distributed. Some of the spawn is collected in park waters, or nearby, but other supplies come from as far afield as Wisconsin, the eastern provinces and states, and even New Mexico.

During the year fish stocking operations were carried out in other national parks, ranging eastwards from the Rockies to the Atlantic. Adult black bass obtained from the Province of Ontario were placed in Lake Waskesiu in Prince Albert National Park, Saskatchewan. Rainbow trout fingerlings, reared from fry obtained from the provincial hatchery at Fort Qu'Appelle, were distributed in Clear Lake in Riding Mountain National Park, Manitoba. In the recently established Cape Breton Highlands National Park in Nova Scotia more than 100,000 salmon fry from the Margaree hatchery were placed in the Cheticamp River.

To ascertain the results of fish stocking, a creel census was conducted in Waterton Lakes and Prince Albert National Parks. Fisheries research surveys were continued in a number of the parks, and begun in Prince Edward Island National Park where an examination was made of the "Lake of Shining Waters," featured so prominently in the novel "Anne of Green Gables," by L. M. Montgomery. //

No. 144. Wed. Feb. 21, 1940 -- Undergrade Potatoes

Canada at war brings home to us more clearly at times what the Government and the Civil Service has accomplished in the way of protection of the public from unscrupulous adventurers in business.

There was an illustration of that thought in the Ottawa Police Court this morning. The maximum fine of \$50 and \$2 costs was imposed by the magistrate on an Ottawa dealer for supplying to the troops stationed at Rockcliffe, 26 seventy-five pound bags of undergrade potatoes contrary to Section 2 (a) of the General Regulations of the Farm Products Grades and Sales Act which covers fruits and vegetables.

In plain terms, this unscrupulous man had tried to palm off rotten potatoes on the young men who were going through hard training to equip themselves to fight in battle the enemies of their country. They were going to battle to save this man's hide, as well as ours, of course.

The Ottawa magistrate administered the penalty to the limit of his power. Someone said it would be a warning. Happily, there have been very few cases of this kind -- at least we have heard of very few.

This Section of the Act under which the conviction was made states "No person shall pack, transport, advertise, display or offer for sale, sell or have in possession for sale any produce which has not been graded and inspected and packed and marked in accordance with the provisions of this Act and the regulations thereunder, the onus of proof of compliance with such provisions being upon the person charged."

No. 145. Thurs. Feb. 22, 1940 -- The Modern Grip

Thirty-five years ago and more there was a parliamentary custom which has gone by the board in these changing days. Newspaper correspondents on the Press Gallery, along with the Members of the House, were presented each session with something in the way of travelling equipment, usually a grip or now and again a leather trunk.

There was more in this than met the eye of the critics of custom who arose later to blot it out. The correspondents of those days had to travel harder and farther to keep up with the peregrinations of the politicians. There was the long buggy ride in the depth of winter, varied by a grimy train journey in summer heat, lots of the one or the other and variety to burn. Travelling gear had a hard time. Sometimes it got lost altogether. One prominent newspaper man had his dumped from a sleigh into an Ontario snowbank and never saw it again.

One day in the early 1900's when the Laurier regime was under full sail, the grip arrived. But it was different. It was built flat, like a miniature cabin trunk for ocean travel that could be slipped conveniently under the bunk. The make of it aroused some comment and Col. Smith, then sergeant-at-arms, made the prophetic statement that that was the coming thing.

So it turned out to be. Note the displays of travelling accessories in the stores, glance at the passengers waiting for a train at a railway station, or the grips that are being stowed in an automobile. Hardly ever is it the Gladstone bag any more; it is the flat suitcase. Even the women's hats can be tucked into them. How often do we see the gentleman's hat box, or the lady's big round leather affair to hold her Gainsborough creation? Very rarely. Never now a carpet bag. Even the centenarians have discarded these.

Even the turkey of the lumberjack is giving place to the suitcase, and many of the soldiers are coming into camp with them also.

These leather affairs last a long time, so it seems quite remarkable to find that more than 60,000 of them are turned out in a year and the factory value is around \$400,000.

No. 146. Fri. Feb. 23, 1940 -- Cold Storage

B-r-r-r! Why bring that up? We bring it up because it is a necessary business in Canada. Not only are there numerous cold storage warehouses for preserving foods and other commodities but almost every urban home has a refrigerator and many farms have ice houses or ice wells. Do you know that there are also many cold storages for storing milday's furs during the summer?

Cold storage establishments have become a necessary part of our civilization, for by refrigeration we can hold perishable food products for future use and thus spread the consumption of a seasonal food throughout the year. Makers of food products too are enabled to give year-around employment because by refrigeration they can preserve the seasonal raw product until required for manufacture. Also it is a most important thing in war-time.

Quantities of food, huge in the aggregate, are held in cold storage warehouses, public and private, in Canada. On October 1 each year, for instance, butter and cheese stocks are at their highest, butter being from 50 to 65 million pounds, and cheese at from 30 to 50 million pounds. They are at their lowest on May 1, just after the seasonal increase in manufacture begins. Stocks of eggs are at their lowest on March 1 or April 1 when "Biddy" saves the situation by doing her duty of laying more abundantly. The egg stocks are at their highest on September 1, eggs in shell being from eight million to 16 million dozens and frozen egg meats from three million to six million pounds.

The stocks of dressed poultry, cheese and eggs are at their highest on January 1 with from eight to 17 million pounds in storage, and at their lowest on September 1. Pork stocks are highest on May 1 and lowest on September 1 or October 1; beef holdings are highest on December 1 or January 1. as are the stocks of mutton and lamb, while fish held in storage are in greatest quantity on November 1.

There are more Canadian apples in storage on November 1 than at any other time of year, while by July 1 very few are left. Stocks of potatoes are at their highest on December 1. Frozen fruit stocks are greatest on September 1.

According to the latest report from the Dairy and Cold Storage Branch of the Dominion Department of Agriculture, there were 406 cold storage establishments, apart from dairy factories, with an approximate capacity of 58 million cubic feet. All dairy factories, of which there are some 2,580 in Canada, have some form of refrigeration.

Wild animals have been known to have been caught by Nature and kept well under refrigeration, the best-known instance being that of the pre-historic mammoth which was discovered in Siberia in 1901 imbedded in an icefield. It was intact, the skin well preserved, and was set up in the museum at what is now called Leningrad in the same position in which it was found.

Our knowledge of refrigeration is increasing rapidly from many forms of research.

No. 147. Sat. Feb. 24, 1940 -- Wild Meat for the Larder - 1

We are familiar with the fact that buffalo and reindeer have thriven well in the far north, but not very many people, it seems, are aware that buffalo have been brought to Ontario. It is too early yet to know definitely how they have done, for the shipment of 25 to the 35,000-acre corral at Burwash only arrived recently.

But we do know some things very definitely about elk. Eight years ago there were no elk in Old Ontario, but in 1932 a carload of 25 were shipped from the Wainwright National Park and set free in the Pembroke Crown Game Preserve, about 100 miles northwest of Ottawa. Six additional herds were brought east and released at the Burwash, Tashota and Chapleau preserves, making 172 in all. A check was made

on their annual increase.

The latest survey shows that the various herds have almost trebled in size, and so certain were the authorities that the elk could look after themselves, that last summer the animals were released from their corrals. A number were removed to Algonquin Park, Bruce Peninsula, Nipigon-Onaman and Goulais River-Ranger Lake preserves and to Beausoleil Island in the Georgian Bay.

Today, after only eight years, elk may be found roaming freely through the wilds of Ontario. Many hunters have encountered them when they were trailing moose and deer, and it seems assured that in the near future hunters will be allowed to add the majestic elk to their bag.

Apart from the romance of the experiment, this is quite evidently going to provide a valuable addition to the food supply of Ontario.

Before leaving the subject, it might be pointed out that elk were at one time numerous in Manitoba, but the passage between Manitoba and Ontario is a difficult one, and elk in any numbers do not appear to have felt inclined to make the journey.

No. 148. Sun. Feb. 25, 1940 — Wild Meat for the Larder - 2

Besides buffalo and elk, with which Ontario has made a beginning as a future food supply, there are other wild things that are at present giving us food. Notable is the pheasant. Mass production has been undertaken by the Government to restore the pheasant population, which was depleted during the three-day season last October when 150,000 were bagged by the hunters. No game could withstand this indefinitely.

So the breeding of pheasants by chicken ranches is being encouraged. Last year some 30,000 birds were released in this way. The most abundant and popular variety in Ontario is the English ring-necked type. When they were introduced is not clear, but a Government report in the 90's of last century refers to them.

Then there are ruffed grouse, partridge, quail, duck, woodcock, geese. To one who is not familiar with wild life, the idea of a tightly closed season to restore losses seems to solve the problem, but apparently it is not so in all cases. It is probably correct in so far as big game animals are concerned, but not so with ruffed grouse or partridge. An official of the Ontario Department of Game and Fisheries says: "It is not man who kills off partridge. Nature is responsible for their disappearance. Like the rabbit and lemming, they have their high and low peaks -- usually every ten years. A closed season, however, helps in that it brings about the peak of the increase a year or two nearer in the more settled areas."

It seems strange that Canadians do not favour rabbit meat, so popular in most other countries. It is a delicious food, to many people superior to chicken. Probably the taint of the meat when winter comes and the rabbit is feeding on cedar and other evergreens is the cause. In the fall, before the snow covers the pastures, rabbit meat is choice.

So, all in all we have a great supply of food in the wild life of the woods and open spaces.

No. 149. Mon. Feb. 26, 1940 — Wood Ash for Fertilizer

A few days ago we had some valuable information from the chemists of the Department of Agriculture about fertilizers, a subject that is of vast importance at this time when so many plans are being made to speed up production to meet the exigencies of war. Here is some more that may be helpful, before the winter's ashes are otherwise disposed of.

Approximately 10,000,000 cords of fuel wood are cut and burned in Canada every year, and a great deal of the ashes are thrown away, although they have a definite agricultural value as fertilizer.

At the outbreak of war in September, 1939, the prospect for adequate potash supply for fertilizer purposes was none too encouraging as it was thought that European supplies would be cut off, and United States production was not supplying Canada to any great extent. However, the situation in this respect has since changed very much, the prospect now being good for a continued and ample supply.

The production of potash in the United States has been stepped up to a point believed to be sufficient to meet the requirements of the North American continent, and, in addition to this, production interests in France have announced that an ample supply to Canada for this year is assured. As a matter of fact, large quantities of French potash are now in Canada, so that any fear of potash shortage in the immediate future would appear unwarranted, and farmers may continue to buy their potash requirements for fertilizer purposes as before the war.

No. 150. Tues. Feb. 27, 1940 — Warble Fly Menace

Warble flies do damage to beef and dairy cattle in Canada annually to the extent of millions of dollars. Warble flies are on the rampage from coast to coast, wherever live stock is raised. Grave losses to farmers are caused through the spoiling of hides by the holes made by the grubs, through injury to cattle from fright and worry when the flies are buzzing around, and through consequent reduction in milk production and wastage of beef. In recent years warble fly damage has been considerably reduced in some districts by systematic control measures, including timely application of derris washes to the backs of the animals.

On sunny days in spring and summer, warble flies lay their eggs, attaching them to the hairs on the legs and lower parts of the cattle. The buzz of the flies is sufficient to cause panic among the animals so that they run wildly about the fields. The small grubs hatch from the eggs in from three to seven days, penetrate the skin, and migrate through the tissues of the animal, in some cases congregating in numbers in the region of the gullet. They remain there during the summer until late winter when they commence a second migration and come to rest under the skin of the back which they perforate to make breathing holes. In about two months they squeeze their way through these holes and drop to the ground in the shape of hard, black, seed-like objects about three-quarters of an inch long, from which a new generation of flies emerge in from one to two months to mate at once and repeat the egg-laying process. The total period from egg to egg requires about a year, and at least nine months are passed as a grub in the bodies of the cattle.

When the grubs are under the skin of the back of the animals is the time for the farmer to act. This period may be from January to June. If the grubs are destroyed

before they leave the animal, no warble flies will emerge, for dead grubs provide no flies. Four or five treatments of a standardized derris wash have proved effective for this purpose. The first application should be made in early spring when the grub swelling first becomes conspicuous. This would be about mid-February in the interior of British Columbia and the third week in March in the Prairie Provinces and Eastern Canada. The second and third applications should be made at 28-day intervals after the first, and the fourth application 35 days after the third. Provided every cattle owner in the area uses the wash in the proper manner, the warble fly menace will be largely reduced or eliminated in the district. The treatments, however, should be repeated each year to maintain satisfactory control.

Derris, which forms the active ingredient of the control mixture, contains an insecticide, known as rotenone, and is derived from the roots of certain species of tropical plants. Originally it was used by the Polynesians to poison the tips of their arrows and also to catch fish.

No. 151. Wed. Feb. 28, 1940 -- A Bit of Ski History

Discovery of a pair of axe-hewn skis in the ruins of a railway construction cabin near Castle Mountain in Banff National Park, Alberta, indicates that skiing was introduced to the Canadian Rockies more than half a century ago. A search of early records to explain the existence of the skis reveals that Swedish and Norwegian workmen, employed in the construction of the first transcontinental railway, disdained the use of Canadian snowshoes and made for themselves the skis on which they had learned at home to travel so swiftly and surely. The ancient skis now hold a place of honour in the ski museum of the new Mount Norquay Ski Clubhouse.

The workmen who fashioned the skis were evidently skilled axemen, as the skis, even to the prows, were hand-hewn from a pine tree. For boot-plates and extra strength and thickness, an additional piece of wood was nailed to each ski. Evidently no camber or harness was used, but on the boot plate of one ski is a felt sole which indicates that the skier nailed the soles of his woodman's felt boots to the skis. The heel of the boot was left free, allowing the freedom of action provided now by modern ski harness.

In recent years Banff National Park has become the centre of championship skiing activities, and with the 1940 Dominion Ski Championships to be held on the Mount Norquay ski grounds beginning tomorrow, skiers from all parts of the continent are gathered at Banff. The Mount Norquay location is ideal for competitive skiing, having right at the camp, within five miles of Banff townsite, facilities for every sort of event. These include a spectacular downhill course, a class A jump from which leaps of more than 200 feet have been made, a cross-country course and three separate slopes all suitable for slalom.

The Canadian production of skis, that is the wooden part, is valued at over \$200,000 a year, which indicates how great is the use of skis nowadays, when only a few years ago the snowshoe was the chief equipment for out-of-doors winter sportdom, and skis were very little known.

No. 152. Thurs. Feb. 29, 1940 -- Leap Year

Leap year is the name given to each year which contains 366 days. Every four years we have to have a Leap Year.

The astronomers of Julius Caesar, in the year 46 before the birth of Christ, settled the solar year at 365 days and six hours. These hours at the end of four years had accumulated to 24 hours, one day exactly, and the day was added to the fourth year. Today is February 29, and there won't be another February 29 until 1944.

The name Leap Year is an English conception of what actually occurs, for after February 28 a date "leaps over" a day of the week.

Regarding the ancient custom for women to woo during Leap Year, no acceptable explanation has been found, but the custom is very old. The earliest record we have of it is in Scotland. In 1288, when Margaret of Norway was Queen of that country, a law was enacted as follows:

"It is statut and ordaint that during the rein of hir maist blissit Mogeste, for ilk yeare knowne as lepe yeare, ilk mayden ladye of bothe highe and lowe estait shall hae liberte to bespeke ye man she likes, albeit he refuses to taik hir to be his lawful wyfe, he shall be mulcted in ye sum ane pundis or less, as his estait may be; except and awis gif he can make it appeare that he is betrothit ane ither woman he then shall be free."

A few years later a law similar to the Scots law was passed in France, the ancient ally and friend of the Scots. In the 15th century the custom was legalized in Genoa and Florence.

Note:

The January 19 "Fact a Day" told of the loss of two warships in Lake Superior during the First Great War. They were trawlers which were to be used in war service by the French Government, for which the ships were built.

After leaving Port Arthur on completion, they were never heard of again.

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DEPARTMENT OF
TRADE AND COMMERCE



CANADA

A FACT A DAY ABOUT CANADA

FROM THE

DOMINION BUREAU OF STATISTICS

MARCH 1940

SIXTH SERIES

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James Muir,

Editor.

from the

Dominion Bureau of Statistics

No. 153. Fri., March 1, 1940 -- Tile

Hark back to the days of the iron pot, the iron griddle and stewpan. Remember the bespattered walls of the old kitchen. A pot of porridge boiling merrily could throw a spot more than a yard away -- "sparking" we called it, no doubt the same idea behind the word when we saw a young man quite evidently pursuing the maid of his dreams. The walls of the old kitchen had to be done over frequently to make them look nice.

Hark back for a moment. There are lots of people in Canada who can recall the Saturday night clean-up of the family. The bathing began with the youngest of the youngsters who were the earliest to be tucked in under the blankets. Big wooden tubs took care of the cleansing of the family in regular rotation. It was a messy business. On Monday morning these same tubs did duty with the week's washing.

After a while the family had an adventure. A bath tub was installed. It was made of zinc and painted a creamy white. A big kitchen range took the place of the wide open fireplace from whose scree had swung the boiling pots.

However, some of the messiness remained until the arrival of the Tile. It made its first appearance on the tiled hearth of the living room fireplace. After that it was installed on the bathroom floor. Then it covered the bathroom walls half way up. Now it has come all over the bathroom walls and descended to the kitchen, where Tile covers floors and walls and porcelain features all the cooking accoutrements.

A trade magazine describes the new idea as follows: The drab, uninspired haven of sink and stove has blossomed out as a show place. Everything has its virtue, even economic depressions, and when the home-owner became her own cook and serving-maid, she demanded a lovelier environment in which to toil -- and a more efficient one. Peasant type kitchens use tile of Delft inspiration; sunny yellow kitchens bring perpetual spring to the home; cool green tiles moderate the heat of cooking; glossy black tiles charm those who favour the modern. Tile dealers can furnish tiles to suit every taste.

The making of tile is quite a large business in Canada. There are all sorts and descriptions of it. Feldspar and silica supply the basic materials. Glazed tiles are burnt in the high temperature of the pottery kiln. Some clay is imported, chiefly from the United Kingdom and the United States. The factory cost of the tile exceeds one million dollars.

No. 154. Sat. March 2, 1940 -- Canadian Wool Clip

Last December great interest was manifested in the successes of Canadian farmers at the International Exhibition in Chicago with their remarkable grain and other farm products, and now comes along a very encouraging list of wins in Canadian fleece wool at the recent International Wool Show at San Francisco.

Canadian wool growers captured first and sixth prizes with Southdown; first,

second and fifth with Shropshire; first with Cheviot; second and third with Leicester; first, second and fourth with Kerry Hill. Southdown and Shropshire wins went to Ontario, Cheviot to Quebec, Leicester to Ontario and Quebec, and Kerry Hill to British Columbia.

The established breeds of sheep in North America are of British, Spanish and French origin. The British breeds predominate in Canada and constitute considerably more than half of the pure-bred sheep in the United States. Shropshires are the most numerous of any breed in the United States, so that the Canadian victory for wool in that class is of considerable interest.

The leading breeds of sheep in Canada from the standpoint of numbers are, in the order named, the Shropshire, the Oxford Down, the Rambouillet, the Hampshire, the Suffolk and the Southdown.

The Shropshire sheep is descended from the old native sheep of the Salopian hills, improved by the use of Southdown blood. Though heavier in fleece and a bulkier animal, the Shropshire resembles an enlarged Southdown. It has a darker face, however, woolled all over with the exception of the muzzle which is blackish brown as a rule, very neat ears, and has a more massive head. The Shropshire is the most popular mutton sheep in the corn belt and Great Lakes regions of the United States.

In Canada there are about 36,000 purebred Shropshires out of 122,000 purebred sheep of all breeds. Of the 36,000, over one half are in Ontario.

The Southdown was formerly known as the Sussex Down. In past times it did for the improvement of the shortwool breeds of sheep what the Leicester performed in the case of the longwool breeds. A pure Southdown has a small head, with a light brown or brownish grey face, fine boned and symmetrical, well-fleshed body. The legs are short and neat, and the lowset animal is smaller than other Down sheep. About 5,000 purebred Southdowns are reported in Canada, of which over 4,000 are in Ontario.

The Cheviot is a hardy border sheep with straight wool, of moderate length and very closely set. Crossed with the Border Leicester, it is said to be unsurpassed as a rent paying, arable-land sheep. There are less than 2,000 purebred Cheviots in Canada and about half of these are on farms in Quebec.

The Kerry Hill is a brown and white speckled faced breed found along the Welsh border. Kerry Hills are hardy grass sheep. They are often crossed with Shropshires and Welsh Mountains to produce fat lambs. Kerry Hill sheep are relatively new in Canada and they probably number less than 100, most of which are located in British Columbia.

The total wool production of Canada in 1939 was approximately 18 million pounds and, in view of war needs, it is satisfactory to learn that an increase of over four per cent is forecast for 1940.

No. 155. Sun. March 3, 1940 - Spreading Money Around

A very illuminating report on employment, wages, cost of materials and gross value of products by the manufacturing industries of Canada, is issued annually by the Dominion Bureau of Statistics. The list is tabulated in order from one to 40,

according to the gross value of the products. The first ten are placed as follows: Non-ferrous metal smelting and refining \$318,278,000, Pulp and Paper \$226,245,000, Slaughtering and Meat packing \$181,419,000, Automobiles \$134,810,000, Flour and Feed Mills \$133,634,000, Butter and Cheese \$124,935,000, Sawmills \$104,850,000, Electrical Apparatus and Supplies \$98,842,000, Petroleum Products \$98,454,000, Railway Rolling Stock \$93,855,000.

Quite an argument could be raised as to which of these industries distributes the most money among workers, but one would have to be very wary about reaching conclusions. There are pitfalls. Non-ferrous metal smelting and refining brings the greatest value for its gross products, namely \$318,278,000 in 1937. It employed 11,570 persons and paid out in wages \$17,991,000. That industry was 21st in the number of employees and 9th in wages paid to employees. But the cost of materials at \$201,863,000 was by far the largest of any manufacturing industry.

On the other hand Pulp and Paper with a gross production value of \$226,245,000 in 1937 had 33,205 employees and paid them \$48,758,000. Comparatively speaking, the cost of materials was small, amounting to \$91,122,000.

Sawmills had the largest number of workers, 33,917, but money paid to workers was much less, at \$27,174,000, than by Pulp and Paper. The chief reason was that many of the workers were seasonal.

An example of comparatively few workers creating a large production value is Flour and Feed mills with 5,803 persons making \$133,634,000. Money paid to these workers was \$5,877,656, but the materials cost \$92,706,000.

The forty leading manufacturing industries had 18,465 establishments, capital stock \$2,589,000,000, employees 495,467, salaries and wages \$542,121,000, cost of materials \$1,648,000,000, and gross value of products \$2,850,000,000. These forty leading industries had 78.7 per cent of the total output of all manufacturing in Canada.

No. 156. Mon. March 4, 1940 --- Photo-Electric Planimeter

One of the outstanding new things about the present war is the efficiency of the Royal Air Force in making photographs of the German countryside and the movements of troops and battle preparations and equipment.

Air photography has made rapid development in recent years, which is a reminder that with a view to speeding up the preparation of forestry maps from air photographs, the Dominion Forest Service has developed the photo-electric planimeter, an amazing instrument which measures map areas two to three times as rapidly as the ordinary planimeter. Although only in the experimental stage the results of the photo-electric planimeter are highly accurate, and this accuracy will be still further increased when certain proposed improvements have been incorporated in the instrument.

The principle utilized in the photo-electric planimeter is based upon the action of photo-electric cells in producing an electric current when subjected to light. Light coming from an illuminated surface is measured by the current it produces in the photo-electric cells. The area to be measured is cut out of a map which has been blackened on the back, and the cut-out is placed between an illuminated surface and the photo-electric cells. Thus the light reaching the cells is reduced in proportion

to the size of the blackened area interposed, and the measurement of this reduced light enables computation of the size of the area.

This improved means of area measurement will have many fields of use, particularly with pulpwood and lumber companies, and government departments administering forest lands. It can also be utilized by engineering organizations to measure plotted profile areas, in laboratories for the testing of structural materials, and for many other uses in scientific industry.

No. 157. Tues. March 5, 1940 -- Tent Caterpillars

This year of all years the Canadian people will have to be on the outlook for the destruction of insect pests. Our forests will have to be preserved as never before.

One of the most destructive pests is the Tent Caterpillar. An epidemic of Tent Caterpillars is a spectacular event. The trunks of trees become covered with hairy masses of caterpillars, often two and three deep, crawling up and down or clustering motionless, apparently to take a rest between feeding periods. After defoliating the trees in one area, the caterpillars descend to the ground and crawl in enormous numbers, often for long distances, in search of new sources of food, leaving behind them a forest as leafless as it would be in winter. In their migrations, the larvae may cause considerable inconvenience to travellers, campers and woodsmen.

A few years ago in northern Saskatchewan, a much-harassed cook for a fire-fighting crew bought, in an inspired moment, one hundred yards of cheesecloth with which to cover his tables, utensils and food. Notwithstanding his precautions, the occasional caterpillar found ways and means to defeat the cook's sanitary measures. Meanwhile, in the bush, the men walked in trails alive with the creatures, slithering and sliding in the midst of their carnage and dodging with slight success the caterpillars falling from above. They were forced to work with gloves, the better to hold the handles of their dangerously slippery tools. In the camp, tents, cots and baggage were swarming with caterpillars while all around the sound of falling excrement was like that of rain upon the forest floor.

Large migrations of Tent Caterpillars frequently stop trains, the driving wheels not being able to gain traction on the rails covered with the crushed bodies of the insects.

At the time of pupation, the caterpillars spin their cocoons in protected situations on underbrush, small growth, fences, eaves of houses and outbuildings, fire towers and even in the concavities of insulators of the bush telephone lines. Observers report that in some years conifers such as spruce and jack pine bore so many cocoons as to appear covered with a heavy snow.

Epidemics usually last about three years and reappear in more or less regular cycles. Some areas seem to be at the crossroads of several of these cycles and suffer attack year after year in a varying degree. After a heavy infestation, new leaves are usually formed, but they are noticeably fewer and smaller than under normal conditions.

The decline of infestations is usually very rapid and due to bacterial and

fungous diseases or to parasitic flies and wasps which use the caterpillar horde as a living larder for their offspring. By learning to control and guide such natural agencies of pest decimation, it may be possible some day either to check wholesale outbreaks in their beginnings or arrest their spread. This problem is under investigation at the Winnipeg Entomological Laboratory.

No. 158. Wed. March 6, 1940 --- First War Loan

Canada's first War Loan is an event to be remembered. It was over-subscribed, and a brief analysis of it reveals a war effort which brings the individual of small means into the picture.

There were 178,363 subscriptions, with an average of about \$1,325 each. Of this total number of subscriptions, 172,331, or 96.6 per cent, were for amounts from \$50 to \$5,000, with an average of \$665. Allotments on subscriptions from private individuals exclusive of corporations and dealers accounted for 63 per cent of the total amount of the Loan.

"The wide distribution of this Loan is a really remarkable achievement on the part of the Canadian people," said Col. J. L. Ralston, Minister of Finance, in commenting upon the figures. "Almost two-thirds of the \$250,000,000 Loan came from private subscribers, as distinguished from corporations and dealers. As a result of our appeal to the subscriber of small or moderate means, we received no fewer than 121,407 orders for \$500 and under, with an average of \$235 each. It is this particular classification that gives me the greatest satisfaction. The response of smaller investors and the widespread distribution of the Loan among private individuals constitute a remarkable testimonial to the strength of Canada's economy and to the unity of the Canadian people behind the prosecution of the war. They are indeed a happy augury for Canada's war-time financing and a special confirmation of the wisdom of the Government's decision to make War Savings Certificates available in the near future for a systematic and continuing programme of savings and investment by the general public."

The offering of First War Loan bonds was over-subscribed in the first forty-eight hours, but the books were held open for an additional three days to permit acceptance of smaller subscriptions from the more distant communities. Final figures showed a total subscription of over \$374,000,000, and the total amount allotted was \$250,000,000. The figure of more than 178,363 separate subscriptions contrasts with 24,862 orders for the first war loan issued during the last Great War. Furthermore, nearly 46 per cent of the Loan was subscribed for in amounts of \$5,000 or less, whereas even in the case of the second Victory Loan offered in 1918 at the close of the last war, only 40 per cent was accounted for by subscriptions of \$5,000 or less.

No. 159. Thurs. March 7, 1940 --- Fishing Bears

Probably the majority of people have never seen a bear fishing for salmon. Nevertheless during the salmon runs bears in British Columbia put in considerable time fishing along the banks of various small creeks. They are successful, too, in so far as making heavy catches are concerned. As a matter of fact, the clever animals are far too successful and in more than one stream their depredations deplete the supplies of salmon reserved for spawning, to almost the vanishing point.

To combat this evil the Dominion Department of Fisheries has authorized its officers to destroy these salmon marauders when they are encountered during patrol work in the spawning areas. During 1939 seventy-two bears were killed by two patrolmen and an inspector in the course of their duties on Queen Charlotte Islands. Thirty-nine bears were killed at one point alone.

The animals do the most damage when the fish first start up the creeks. Standing along the banks or in the shallow reaches of the creeks the bears prove adept fishers as they scoop up the unfortunate salmon with their great paws and toss them to higher ground. More often than not the day's catch is not touched again. The bears apparently from sheer love of fishing capture fish far in excess of their immediate food needs.

The fisheries officers find bears troublesome in other ways too. How would you like to face four huge, shaggy grizzlies angered at being disturbed at their meal of fresh run salmon? Such was the experience of one inspector in British Columbia last fall at a remote point on the mainland. Discretion was the better part of valour and the inspector retired. Victory went to the grizzlies but not for long. The inspector returned armed for the fray and two of the savage animals "bit the dust" to feast no more on salmon.

Natural enemies including bears and wolves take a heavy toll from salmon breeding stocks. Where possible, measures of control are undertaken to curb the animals involved. Often the control exercised can only be of a limited nature. This is but one more reason emphasizing the care and supervision required in measures, regulatory and otherwise, designed for the preservation of the valuable fishery resources of Canada.

No. 160. Fri. March 8, 1940 -- Gypsies

There appeared in this morning's newspapers an unusual story emanating from Toronto. It said that King Frank Dimitro, ruler of the Gypsies in Canada and the United States, will ascend the Gypsy throne on April 25 and that he will form an army of Gypsies to fight for Canada. "Hitler is a bad man", he is quoted as saying. King Frank says there is in Toronto in a safety deposit box, a crown and badge which is one thousand years old and made of solid gold.

King Frank is a native of Winnipeg and has lived in Toronto for twenty years. His father, King Zlitchco, reigned 25 years ago and, when he died a year ago, King Frank went into mourning, while King Peter Mitchell carried on. The period of mourning ended, King Frank is now ready for the coronation.

The problem of the origin of the Gypsies has never been solved. There is an old theory, by which the Gypsies first reached Europe in 1417, pariahs expelled from India by Tamarlane less than ten years before. Another theory is that about 430 A. D., the Jat ancestors of our Gypsies were summoned from India to Persia, and from Persia gradually wandered westward. Then there is the Prehistoric theory, by which there have been Gypsies in Europe for more than two thousand years, by which Europe, or a great portion of Europe, owes to the Gypsies its knowledge of metallurgy. In Britain they were often called "tinkers".

However, it seems to have been proved conclusively that the Gypsies did not spring from Egypt, as the popular name implies, but from India. Knowledge of dialects has supported that.

Towards the end of last century deep interest was shown in the wandering Gypsies. A Gypsy Folk Lore Society was formed, members of it hailing from many countries. Richard Haliburton was a member of that Society. The Romani became popular and there was a favourite song sung on the concert platform, "The Romany Lass."

Apparently the Gypsies did not receive much sympathy in North America. We are told that a colony of them was bundled off to French Louisiana and they promptly fraternized with the local Indians. They were among the earliest (enforced) colonists of some of the present Middle Atlantic states; they appeared quite early among the German settlers of Pennsylvania, and were in New York long before many of the present-day first Manhattan families landed. Indeed some of these first families can trace their lineage back to the Dutch Romanies.

A distinguished authority on Gypsy lore says: "The way to an understanding attitude towards Gypsies in America winds uphill. We lack that comfortable acceptance of Gypsies as part of the rural scene, which is so prevalent in England. Our motor-cycle police are, perhaps, more stoney-hearted than the country constables of England and Wales. We also lack the number of scholars who burn with unceasing ardour for Roms and their customs."

Our Canadian census does not list Gypsies separately as such. In this country they are almost entirely seasonal visitors from the United States. Probably the number in North America is somewhere between 50,000 and 100,000.

No. 161. Sat. March 9, 1940 -- Muskrat Restoration

One of the largest muskrat hunts in years will be held this spring by the Indian and half-breed population living in the Saskatchewan delta area, east of The Pas, Manitoba. This has been made possible through the huge muskrat restoration project started five years ago by the Manitoba Government with financial assistance from the Federal Department of Mines and Resources. The success of this ambitious undertaking inaugurated with a view to improving the economic welfare of the native population now seems assured, and marks up another triumph in the annals of Canadian wild life conservation.

At one time the Saskatchewan delta area was overrun with muskrats, statistics revealing that in 1902 approximately 800,000 muskrats were trapped here, but owing to drought and diminishing water levels the little animals had decreased to such an extent that in 1934 the catch was estimated at about 50,000 pelts.

As an initial step to replenish the muskrat population, a large tract of 135,000 acres in the delta marshes was selected for development as muskrat breeding grounds. Water levels were raised and regulated by the construction of dykes and dams, and a staff of game wardens was appointed to patrol the area. With the restoration of their natural habitat and the protection afforded them, the muskrats soon started to come back in the developed area, and within five years their numbers have increased from about 500 to more than 200,000.

No. 162. Sun. March 10, 1940 -- University and College Revenues

The operation of universities and colleges is big business, far bigger than a casual glimpse at these institutions would indicate. A better appreciation of the significance of the amount of money involved may be gained by considering it in relation to support for some other educational or cultural institutions. It is equivalent to about one-half of the receipts of motion picture theatres, about one-third of the sum required to produce our newspapers and magazines, or one-eighth of the amount contributed to the support of elementary and secondary schools.

Current revenue for the institutions included, exclusive of income from board and lodging, was about \$15,200,000 in 1939. This, however, does not all represent revenue for the purpose of higher education. Some of the colleges have preparatory departments, and most of the larger universities spend a considerable part of their income on extension services for the general public. Deduction of such sums, and addition of an estimate for the unreported institutions (with 20 per cent of total enrolment) would indicate that the total amount available for operation of places of higher education in Canada was between 17 and 18 million dollars for the academic year ending in 1939.

The institutions omitted from the calculation are mainly those conducted by religious orders, where teachers receive little or no salary, and the financial returns consequently do not present a comparable record. Those included have enrolled approximately 80 per cent of the full-time students of university grade throughout the period.

The sources of revenue vary somewhat as between different provinces, but considering the 17 million dollars for the Dominion as a whole, approximately one-third comes from provincial grants, and one-third from student fees, with the remaining third contributed in roughly similar proportions by endowment income and miscellaneous sources (including religious bodies).

No. 163. Mon. March 11, 1940 -- War and Belgian Shipping

The war has played havoc with the commercial shipping of some countries, and an illustration of its results is furnished by what has happened to the shipping of Antwerp, the great port of Belgium.

During 1939 the number of sea-going vessels which entered the port of Antwerp numbered 9,524, totalling 19,387,970 Moorsom tons, as compared with 11,762 ships and 24,144,705 tons in 1938. This is a decrease of about one-fifth and is due, of course, to the outbreak of the war, since when no vessels flying the German flag have visited Antwerp. What this means may be realized when it is recalled that in 1938 the German ships accounted for 18 per cent of the total number entering that port and 25 per cent of the total tonnage. The number of British and French ships calling at Antwerp has been reduced, and Belgium at present has to rely to a greater extent on vessels of Dutch and Scandinavian nationality. The disappearance of German shipping results in a serious decrease in the transit trade through Antwerp. The total volume of goods in transit outward bound from Antwerp in 1938 was 5,546,620 metric tons, of which Germany contributed 60 per cent; Germany's share of the inward transit in 1938 was 42 per cent out of a total of 3,874,129 metric tons of merchandise.

During the first three months of the war ocean-borne traffic at Antwerp decreased

by 32.4 per cent as regards the number of ships and 30.4 per cent with respect to tonnage as compared with the same period in 1938. In the month of December, 1939, only 340 ships totalling 640,997 tons entered Antwerp as against 1,007 vessels totalling 2,096,886 tons in 1938.

Belgium is dependent to a very material extent on foreign sources for its requirements in foodstuffs and raw materials. Furthermore, Belgium's merchant fleet is relatively small, and only about 12 per cent of the total tonnage of merchandise imported via Antwerp is carried in Belgian bottoms. In 1938 out of a total of 31.6 million tons of merchandise imported into Belgium 11 million tons entered through the seaports, and out of a total of 22 million tons of goods exported eight million tons were shipped by sea.

Belgium's merchant fleet at the beginning of 1939 was composed of 94 ships totalling 365,000 tons gross. Since then six ships (totalling 20,000 tons) have been taken off the register, and in the course of the first three months of the war five vessels totalling 15,000 tons were destroyed. The Belgian fleet can transport about 2,100,000 metric tons of merchandise per annum, whereas the minimum and maximum requirements are from 3,500,000 to 8,000,000 tons.

At the beginning of hostilities, Belgium's transport capacity was adversely affected as a result of detention of ships at the contraband control bases reducing the number of voyages which a vessel could make during a year and increasing the necessity for more tonnage. The introduction of the navicert system has provided a remedy, as ships need not be held up under this method.

Not much Belgian tonnage comes to Canada. For the fiscal year ending March 31 1939, only two boats called, totalling 3,860 tons. In the previous year one boat with a tonnage of 41,640 reached a Canadian port.

No. 164. Tues. March 12, 1940 — Chemical Products

Every chemical product in use today is to some extent dependent upon the mineral industry and the vast majority of the more important of these products, especially the basic chemicals from which other products are made, are directly dependent for their production upon industrial minerals or their derivatives. All the products are based on the work of the physicist and chemist. The latter deals with and controls elementary atoms or groups of atoms derived from selected raw materials, and recombines them in another selected group of materials, making choice from an almost infinite number of possible selections. Such combinations in their final form constitute many well known products, such as sulphuric acid, nitric acid, ammonia, dynamite, coal tar colours and dyes, perfumes, flavourings, drugs, and even fabrics and solid products made from synthetic resins, gums or fibres.

Of the ninety chemical elements so far discovered, only eleven are of major importance in the manufacture of chemicals. These are hydrogen, oxygen, nitrogen, bromine, chlorine, fluorine, boron, carbon, silicon, and sulphur, all of which are non-metallic elements.

Chief sources of raw materials for the chemical industries are the air, the waters of the earth, and the solid earth itself. From the air the industrial chemist draws his supplies of oxygen with which to produce heat from fuels, and to make various acids. The nitrogen he uses in the manufacture of ammonia, nitric acid,

fertilizer chemicals, and certain organic chemicals, is also taken from the atmosphere. Several rare gases are taken from the air, the best known of which is neon which makes possible the flashing red signs seen in every city and town. Then comes water, required by every living plant and animal, and used by every industry in the world. Water also circulating in the upper porous parts of the earth's crust collects numerous mineral salts, which are separated from it and utilized for the service of man. These include common salt, iodine; bromine which is used to improve the quality of gasoline; borax and soda products for laundry purposes, and many others. Products derived from the solid part of the earth include a long list of industrial minerals.

Of outstanding interest among the transformations made by the chemists are those where coke and lime are converted into calcium carbide in an electric furnace. Calcium carbide and water yield acetylene gas, which is used for light and in oxy-acetylene equipment for cutting steel or for welding. This gas can be used also to make acetic acid and vinegar, or acetone for paint and varnish solvents, or to make resinous products. From some of these resins are made elastic rubber-like substances; from others come hard materials that can be moulded, and some can be drawn into silk-like filaments that are twisted into threads and spun or woven into anything from fish-lines to filter cloths or felts.

A vast number of articles made by chemists from common minerals are to be found on the counters of almost any store and in everyday use in many homes and buildings. Several of such items are used in the manufacture of motor cars and airplanes. The lengthy list includes buttons, buckles, hosiery, dresses, neckties, trays, lampshades, tumblers, tableware and many more, yet few users and buyers realize that these products are the result of the imagination, enthusiasm and skill of chemists and engineers working together on minerals.

No. 165. Wed. March 13, 1940 -- Canadian Apples

It is known that apple trees were planted in Nova Scotia prior to 1633. In that particular year, however, Pierre Martin set out a number of trees in the Annapolis Valley, just opposite the town of Port Royal, now Annapolis Royal, and one of the varieties used by the French colonists, the Fameuse or Snow, has long been of commercial importance. A New England authority speaks of grafting methods devised hundreds of years ago. The practice was known among the Romans; it was adopted especially by the Flemish and English peoples, and the New England Fathers soon fell into the habit of improving their seedlings with grafts from England and France.

Canadian history relates that for many years the Canadian fruit industry developed with imported varieties. The English settlers in Nova Scotia imported from England, obtaining in that way a few well-known German, French and English varieties. Thus the Gravenstein was brought to Nova Scotia by the Hon. Charles R. Prescott from the London Horticultural Society, which had introduced it from its native home in Holstein, Germany. In addition to the European introductions, many new varieties were brought to Nova Scotia from the United States, where the majority of the varieties had originated as seedlings.

One of these American varieties, the Yellow Bellflower, was for many years a very popular apple and came to be known in Nova Scotia as Bishop's Pippin. Bishop Inglis, a Church of England prelate, was fond of gardening and fruit growing. He became famous for his apples and people referred to them generally as mentioned above. But the variety which came to be known locally as Bishop's

Pippin was the Yellow Bellflower.

In New Brunswick, one of the earliest ripening varieties, Crimson Beauty, was originated in that Province by the late Francis Peabody, and is now grown throughout the North American continent. The early settlers in Quebec, like their Acadian brothers, brought apple seeds from France and from them it is assumed that the Fameuse or Snow apple originated. Ontario, also a pioneer in the apple industry, originated the famous McIntosh Red at Dunela, in the St. Lawrence Valley south of Ottawa. The most recent commercial expansion of apple production has been in British Columbia, where, during the past 35 years, there has been a large development of the apple industry in the Okanagan Valley, the Kootenays and around Creston.

No. 166. Thurs. March 14, 1940 -- New Municipality in the North

The discovery of radium opened a new mining field in Canada and now the first municipal government has been set up in that area. The new municipality is at Yellowknife on Great Slave Lake in the southern part of the field. The municipal board of trustees began to function at the opening of 1940. It consists of five members, of whom three are appointive and two elective.

The administrative district of Yellowknife comprises approximately 40 square miles within a radius of three and a half miles of Yellowknife post office. There are at present about one thousand residents in the district.

The radium-bearing pitchblende is refined at Port Hope, Ontario, and the final loading into needles is done in England. Rich deposits of silver have been found associated with the pitchblende. Production figures for radium and uranium have not been issued since 1937, when output was 23,770 milligrams of radium and 546,000 pounds of uranium salts. Sodium uranate is used extensively in the ceramic field and is marketed in two forms, known as "yellow" and "orange." By using the black oxide of uranium red and black colorations are obtained. It is stated that about 5.2 tons of uranium salts are recovered per gram of radium. The gross income of the company in 1938 was \$1,443,600 and the operating expenses \$884,200.

The total value of mineral production in the Northwest Territories of Canada in 1938 was \$568,600. Radium figures have not been published and the largest contribution to the value of production from the area was made by silver at \$253,000, the output being 581,900 ounces. Gold production amounted to 6,800 ounces valued in Canadian funds at \$239,200. Copper output was 75,600 pounds worth \$7,500; and the total value of all metals was \$499,700. Fuels were valued at \$68,900 and consisted of 1,500,000 cubic feet of natural gas valued at \$335, and 22,900 barrels of petroleum worth \$68,600. The first gold producer in the Yellowknife area was the "Con" mine of Consolidated Mining and Smelting Company, which commenced production in September, 1938, while Negus Mines Limited began production in February, 1939. The production of petroleum comes from Fort Norman oil wells and is the chief source of power at the radium mines and at other mining properties in the neighborhood.

The presence of minerals in the Northwest Territories has been known for many years, but little development took place until the discovery of radium at Great Bear Lake in 1930. The 1938 report on Canadian mineral production shows production in the Northwest Territories from deposits of radium, uranium, gold, silver, copper, petroleum and natural gas. Lead was produced in earlier years.

No. 167. Fri. March 15, 1940 -- Caribou Travel Farther South

Unusually large migrations of barren ground caribou are reported by the Indians living in the vicinity of Nelson House, Manitoba, a remote trading post about 400 miles north of Winnipeg. The caribou came farther south this year, with the result that the Indians secured an ample supply of meat and are better off than they have been for some years. The Indians, who depend on the fur resources of the country for a livelihood, also report a better than usual fur catch with the prices remaining fair.

The barren ground caribou, the most numerous of all caribou, range in summer over the barren lands of the Northwest Territories, and migrate south for the winter. These animals are now rare or missing from much of their former range along the Arctic coast. In some cases this shifting of range is caused by northern development and in others by the destruction of winter forage of lichens by fire. Until a few years ago it was impossible to get a very accurate idea of the actual range or numbers of the caribou as they wandered over wide areas, but with the large number of permanent white residents now in the North and airplanes passing over much of the region in summer and winter it is possible to make fairly dependable estimates, which place the number of barren ground caribou at about three million.

Within the past few years more caribou than usual have come into parts of northern Manitoba and Saskatchewan in winter, and quite recently barren ground caribou have crossed the Slave River into the Wood Buffalo Park and still farther south of the park in northeastern Alberta where the species was never known before. These caribou travel in great numbers, as in the early winter of 1935 when a herd estimated at 50,000 appeared in the Churchill district.

No. 168. Sat. March 16, 1940 -- Whence the Polynesians?

Thor Heyerdahl, the Norwegian scientist and traveller, advances a theory that the Polynesian races, inhabiting the Hawaiian and other South Sea islands, migrated originally from the mountain-girt Bella Coola Valley of British Columbia.

Heyerdahl's theory may or may not be correct, but it is interesting enough to record here, always remembering that there have been other theories as to the origin of these superior people. Indeed the Polynesians have been called the lost ten tribes. However, Heyerdahl has fitted his reasons so closely together that he claims it is impossible to believe that the Polynesians originated anywhere else than in Bella Coola.

He suggests that the Polynesians were driven from their homes about 1,000 A.D. by the warlike Salish Indians of the lower Fraser Valley, about 300 miles farther south. He believes they fled in their dugout canoes until they reached the open seas where prevailing winds carried them 2,300 miles southwest to the Hawaiian Islands. Some spread onwards to the South Sea Archipelago and others went as far as New Zealand to found the Maori race.

Nearly two centuries ago Capt. James Cook and Capt. George Vancouver discovered in the Hawaiians 60 foot canoes made of American pine. The explorers thought the logs had drifted there but Heyerdahl believes this to be a support of his own theory.

Heyerdahl declares that stone carvings found in the Marquesas Islands are identical to those found in Bella Coola, and that there is a marked relation between the bark clothes worn in both regions. He found similarity in carved columns, instruments of war, and other peaceful utensils.

No. 169. Sun. March 17, 1940 -- Wartime Farming

In view of the fact that farm production is so important to Canada's war effort the best possible information on production methods is being made available to farmers. So that farmers may have this information in a brief and concise form, the Agricultural Supplies Board is issuing special pamphlets. These pamphlets, known as the War Time Production Series, are timely and practical and deal with phases of farming closely related to the war effort. They supplement the bulletins issued by the Dominion Department of Agriculture, through the Publicity and Extension Division.

The War Time Production Series pamphlets which are now available and obtainable by writing to Publicity and Extension Division, Dominion Department of Agriculture, Ottawa, are listed below with the identifying number which should be quoted:

Field Crops: No. 1, Flaxseed; No. 6, Soybeans; No. 15, Pasture Improvement for Cheaper Production; No. 20, The Use of Annual Forages; No. 21, Coarse Grains for Eastern Canada; No. 22, Hybrid Corn; No. 23, Field Corn -- Varieties and Hybrids for Eastern Canada; No. 29, Good Seed and Its Significance.

Crop Protection: No. 24, Diseases of Swede Turnips; No. 28, Weed Control in the Prairie Provinces.

Live Stock: No. 7, Production of Pure Milk; No. 11, The Hexagonal Pig Brooder House; No. 16, Control of Horse Bots and Cattle Warbles; No. 17, Care of the Fleece; No. 18, Canadian Fleece Wool.

Bees: No. 2, Bees, Spring Management; No. 3, Package Bees.

Food Conservation: No. 14, Control of Insects in Stored Grains.

Farm Management: No. 26, The Effective Use of Farm Machinery in Eastern Canada.

It is planned to have about 45 of these special pamphlets in the War Time Production Series.

No. 170. Mon. March 18, 1940 -- Paying for a College Education

The problem of a young man or young woman, endowed with very little in the way of financial resources, to acquire a college education is more difficult than it was twenty years ago, and the Education Branch of the Dominion Bureau of Statistics makes this very clear in an official report on the subject just issued.

The statistical picture of the sources of the revenues which keep the universities going is as follows:

	Percentage of total revenue contributed	
	<u>1921</u>	<u>1939</u>
Government grants	49.8	42.2
Student fees	20.1	32.7
Endowment	16.4	13.2
Miscellaneous	13.7	11.9
	<u>100.0</u>	<u>100.0</u>
All sources	100.0	100.0

There follows the pronouncement that will cause some searching of hearts. It needs no elaboration.

"Students have been called upon to provide a decidedly increased proportion of the money required to operate the universities, while other sources of revenue -- provincial grants, interest, etc. -- have declined, relatively, at approximately equal rates. This is a trend which, unaccompanied by any substantial increase in funds available for student aid, tends to make financial means, rather than intellectual ability, the basic qualification for a university education in Canada.

"From the matriculation scholarships and bursaries at present available only one student per hundred of each year's high school graduating class can receive financial assistance, -- i.e. only one in seven or eight of those who enter university. The others must rely on private means, -- with ~~some~~ exceptions, such as those benefitting from student aid this year under the Dominion-Provincial Youth Training Programme.

"Even in provincial universities in Canada, in normal times, students have not been admitted without fees as is still the practice in some of the state universities in the United States and other countries. In the last ten years the increase in tuition fees for a year in the Arts course at the provincial universities has ranged from 37 per cent to 200 per cent, averaging about 80 per cent for the 7,000 students concerned.

"The prospect of equality in educational opportunity for persons of equal ability -- the generally-accepted ideal of democracy -- becomes more and more remote; and university administrators, concerned with the intellectual and cultural advancement of the country, grow increasingly apprehensive."

No. 171. Tues. March 19, 1940 -- The Atlantic Convoy - 1

People keep asking for more information regarding the activities of the Canadian forces in the Second Great War. It is obvious that not very much can be told. However, here is a story about that wonderful convoy system that has done so splendidly to take Canada's merchant ships safely across the Atlantic. It is written by a Canadian naval eye-witness, out with the Destroyer Patrol. It will be remembered that Mr. Winston Churchill's latest pronouncement says that only one in 800 ships are lost when merchantmen elect to travel the seas escorted by the convoys. The writer says:

I was about a week at sea in a destroyer on what I suppose was a pretty typical

convoy trip in the Atlantic, except that our weather wasn't so bad as it might have been. She was rather an aged ship, 20 years old to be precise, which as everyone knows isn't exactly juvenile for a destroyer. However, since the war started she's done about 73 per cent of her time at sea which is pretty good going, and a tribute to her engineering department. Generally speaking, the worse the weather the longer the time at sea. On one occasion she did a 13 day trip, followed by a day and a half in harbour, and then another 11 days at sea.

Our ship's company numbered about 140, counting officers. They were of all ages from twenty to fifty-five, some of them being pensioners and reservists who were at sea in the last war and before, later returned to the blessings of the land, and then came back to the Navy on mobilization. Their shore jobs were varied. We had several postmen, a poultry farmer, and a plate-layer, a commissionaire and crane driver, two builders, a boarding house keeper, bus driver, a licensee, gamekeeper, joiner and a mental nurse.

I spoke to all and sundry and never heard a grumble. I don't pretend they all loved coming to sea again, and in a small ship at that; but they were a cheery lot and were thinking of starting a band, if someone could scrounge a drum and a few tin whistles. Anyhow, I remember being on the bridge in the cold and chilly dawn out in the Atlantic, with the ship butting into a heavy westerly swell and everything rather cold and wet, and a rather raucous voice drifting up a voicepipe from the wheelhouse -- "Why does my heart go boom?"

I'm sure I couldn't tell him -- at that hour of the morning.

I can't be too explicit as to what we did, or where we went. But leaving one port and arriving at another we picked up our convoy and escorted it for about three days. Our weather was variable. We had a good deal of fog and some rain, and a stiff easterly breeze which superimposed a little breaking sea on top of a heavy swell and made the ship kick about quite a lot.

No. 172. Wed. March 20, 1940 -- The Atlantic Convoy - 2

Our convoy steamed along with their Commodore in charge, while we acted the part of a watchdog and made flag signals -- "Speed so-and-so. Close up" -- when they showed a tendency to straggle. As it's no longer a secret, I can say we were keeping a careful lookout on our asdics, those deadly devices used for submarine detection which have been described as unseen, impalpable fingers groping beneath the sea. Our depth charges were also ready for letting go at a moment's notice, and twice we did let one go on getting what is known as a 'contact'. It might have been a submarine; but wasn't.

Well, on we went, with our convoy gradually getting better at keeping station, even in thick weather, or at night without lights. Merchant Naval officers aren't accustomed to steaming in close order, and being drilled more or less, by flag signals and winking morse lamps. But after very little practice they might have been on the job for years, and their station keeping would have done credit to the Mediterranean Fleet. If ever there was a time when the Royal and Merchant Navies were interdependent and indivisible it's now.

Though a submarine was sunk in our vicinity while we were out, we were not actually in at the death. Indeed, there weren't too many submarines about, for attacking convoys these days is rather a risky business for the U-boats. We steamed

on without incident, reached our appointed rendezvous far out at sea, and turned our convoy over to the care of others. Then we parted company and sped off to another rendezvous, where we picked up another lot of ships we were to bring home. We'd managed to get a peep of the sun and some star sights, so knew our position pretty accurately. And next morning we picked up our convoy right ahead and plumb on time.

Sometimes, when it's blowing a gale and sights of the sun or stars have been unobtainable, escorts have great difficulty in picking up their convoys, and have to search for as long as 36 or 48 hours. But this time we were lucky. We joined up, took up our usual station, and turned our bows homeward. We had more thick weather on the way, and fog's always a bugbear at sea with a considerable number of ships in company. But they all got home safely, and so did we.

No. 173. Thurs. March 21, 1940 -- The Atlantic Convoy - 3

But this convoy work's no sinecure for the escorts, which, as I've told you, spend long periods at sea. And in those winter gales of the North Atlantic the motion is difficult to imagine -- a combined pitch and roll wholly disconcerting to the uninitiated. At one moment the bows'll be climbing to the advance of a steep, slate-coloured hummock crested with foaming white. They'll hang poised for a moment with the forefoot out of water, while the wave sweeps aft with its crest surging knee-deep along the low upper deck. Then the bows fall into the next hollow with a shock that jars the whole ship, while the stern, with its rudder and whirling propellers, is momentarily lifted in the air.

Sometimes the ship'll get out of step with the seas and take a whopper clean over the bows. A boiling cataract'll come roaring over the forecastle, to go sweeping aft past the bridge structure and down on to the upper deck in two cascading waterfalls. Spray'll be driving high over the bridge and funnel tops. Everything's cold and wet and abominable; but still the ship's cook, a seasoned veteran, is managing to produce some sort of a hot meal for the ship's company with his pots and pans skidding wildly across the red-hot top of his galley stove.

Having seen their work, I can give full marks to the officers and men of the Merchant Navy who are carrying the food and supplies upon which we depend. But having also been at sea in one of the convoying destroyers I can't help saying that their job's the toughest that can be imagined. They don't have the excitement of meeting U-boats every time they go to sea. More often than not it means day after day of discomfort in vile weather.

But there's no doubt that the Convoy System is an outstanding success, a success which is largely due to the close co-operation between the two Sea Services and the Royal Air Force, the endurance, grit and supreme skill of our seamen, and to the organization which directs them.

No. 174. Fri. March 22, 1940 -- The Interned in Canada

In this country, as in other British countries, the International Convention relative to the treatment of prisoners of war is interpreted in the broadest and most humane spirit. Readers of the "Fact a Day" will appreciate some extracts from letters by prisoners interned in Canada.

One letter from a prisoner in the internment camp at Petewawa epitomizes the sense and feeling of numerous others, however much the words may differ. He writes: "The treatment is very kindly and the food very good and be sure many got not so good to eat as they have here."

Another assures his relatives: "Here in the camp we are looked after all right. We have enough decent food and everything is going on smoothly. We are free all day to do what we like, either go for a walk or while away the time in the recreation hall. In some respects we are better off than the Militia as we have a German cook. Of course it is not as nice as to be with my darling -- however, it is not too bad at all."

One of the prisoners at Petewawa knew something of the last war and of the conditions then prevailing in his homeland, as this excerpt shows: "I have to give the authorities a lot of credit for the treatment they are giving us -- all of them from the Commandant down to a private are as pleasant as possible. Food is good and for sure better than we had it at home in Germany during the last war. Clothing also sufficient."

His evidence is supplemented by another who, thankful to be able to write in German, assures his people: "We get 3 good meals a day and enough also. If anybody should complain about the treatment, I would say that he is a big liar."

Constantly iterated in the letters is the refrain, "Do not send me any food. The food they give us here is excellent and plentiful." This is varied sometimes to, "Do not send me any more parcels, as I do not need anything."

Kananaskis Internment Camp prisoners are particularly emphatic in their assertions that the wants of the inner man are fully taken care of. One of them received in reply a letter stating: "I am glad to know that your huts are nice and warm and your officers are very nice to you. I must say that in Germany they would not be so nice to us. You know how they are treating us at home (Germany) in the police station. They shout at us over the least little thing."

Deeply impressed by the skill and care given to him while he underwent an operation, one appreciative prisoner had "at all times the feeling that everything was looked after well and that I personally could not have arranged matters better. I am hoping to be able to return my thanks to you by service to maintain order in this camp."

In Canadian eyes these internees are neither automata nor brutes. The fortunes of war have placed them where they are but it is evident on their own testimony that what can be done to mitigate their lot is done. The free and genial air fostered under our democratic system permeates even the confines of their prison camps, and the humanity and kindness of their temporary jailers contrasts strikingly with what they could expect under similar conditions in their own land.

No. 175. Sat. March 23, 1940 — Commander of Second Division

Major-General Victor Wentworth Odlum is the commander of the Second Canadian Overseas Division. Major-General Andrew McNaughton is commander of the First Division now in Europe. Canadian hopes and confidence in these men are high.

General Odlum was born in 1880 and started his military career at the age of 17 when he joined the 22nd Oxford Rifles at Woodstock, Ontario, as a private. In 1899 he went to South Africa with the Royal Canadian Regiment. He was at Paardeberg and saw action in other engagements. Returning to Canada, he took courses at Victoria College and the University of Toronto. He went back to South Africa as a lieutenant in the 3rd Canadian Mounted Rifles.

For a while he was with the 48th Highlanders of Toronto and in 1903 was transferred to the Duke of Connaught's Own Rifles at Vancouver. Later he was an officer in the Militia at Nelson and Winnipeg. In 1910 he was promoted captain, and returned to Vancouver. He was promoted Major in this unit on March 6, 1914. At the outbreak of the last war, he was appointed Major in the 7th Battalion, C.E.F., and saw active service in France. He became Lieutenant-Colonel and Officer Commanding this unit in April, 1915. On June 23, 1916, he was promoted Brigadier General and appointed to command the 11th Canadian Infantry Brigade. He was then 35 years of age. He was thrice wounded and has received many decorations.

Transferred to the Reserve of Officers on demobilization from the C.E.F., on December 12, 1919, he was appointed on September 10, 1920, Officer Commanding the 23rd Infantry Brigade at Vancouver. He was transferred to the Reserve of Officers at the expiration of his tenure of command and was appointed Honorary Colonel of the Irish Fusiliers of Canada, his old unit.

No. 176. Sun. March 24, 1940 — An Enemy Trick

An order issued recently by the Department of National Defence brings back memories of a favorite enemy spy trick of the Great War. The order forbids soldiers to insert advertisements or letters in any publication inviting strangers to communicate with them. It forbids them to reply to such advertisements or invitations. They must not in any other way communicate with strangers concerning military matters.

A popular enemy strategem to obtain military information is to employ women spies to pose as "War Godmothers". The trick is a simple one and gave military authorities trouble during the last war.

The Department does not forbid members of the C.A.S.F. to have "war godmothers". On the contrary the practice is endorsed if done through persons of the soldier's family or of his family circle or through a responsible welfare agency.

By the way, a Prisoners of War Information Bureau has been organized. Enquiries regarding Canadian citizens in Germany or Poland, or Canadians who may be prisoners of war, should be sent to Colonel Hubert Stethem, Director, Prisoners of War Information Bureau, Department of the Secretary of State, Ottawa. Enquiries about Canadians who are interned in Belgium or other neutral countries, should be addressed to the Department of External Affairs, Ottawa, or the Canadian Legation or British Embassy concerned.

No. 177. Mon. March 25, 1940 -- Tomorrow's General Election

There will be a general election in the Dominion tomorrow, to decide who will represent the 245 constituencies in the House of Commons. It may be timely, therefore, to say a word or two about how Canada is governed.

The Dominion of Canada is a democracy. Parliament is composed of the King, represented by the Governor-General, the Senate and the House of Commons. The Governor-General is appointed by the King on the advice of the Government of Canada. Members of the Senate are appointed for life by the Governor-General in Council and members of the House of Commons are elected by the people.

As the result of the working out of the democratic principle, the part played by the King's Representative and the Upper Chamber of Parliament in the country's legislation has been, in Canada as in the United Kingdom, a steadily decreasing one, the chief responsibilities involved in legislation being assumed by the House of Commons.

The Governor-General can only exercise such authority as is expressly entrusted to him. He acts entirely by and with the advice of his Ministry, which is responsible to Parliament. The practice whereby the Governor-General served as the medium of communication between the Canadian and the British Governments was given up in 1927; there is now direct communication between His Majesty's Government in Canada and His Majesty's Government in Great Britain.

The Canadian system of government is based upon the British, by which a Cabinet or Ministry, composed of members of the House of Commons or the Senate, responsible to Parliament, holds office while it enjoys the confidence of the people's representatives. The Cabinet is actually a committee of the King's Privy Council for Canada. The members of the Cabinet are chosen by the Prime Minister. A parliamentary term is five years, and if a government remains in office for the full term, a general election takes place automatically.

The members of the House of Commons are divided provincially as follows, the basis of representation being area according to population. Quebec has 65 seats and the entire population of that province, divided by 65, makes the approximate number of people in each constituency throughout the rest of Canada. The seats by provinces are: Prince Edward Island four, Nova Scotia 12, New Brunswick 10, Quebec 65, Ontario 82, Manitoba 17, Saskatchewan 21, Alberta 17, British Columbia 16, Yukon one; total 245.

No. 178. Tues. March 26, 1940 -- European Corn Borer

The presence of the European corn borer in Quebec and Ontario has been the occasion for serious losses of crop in many districts, especially where control practices are not followed, and has provoked alarm in other districts where the borer is present but in which little or no injury to the crop has been suffered.

The widespread interest in the past has given rise to many suggestions from farmers, townsmen and some commercial concerns for its control. The suggestions have varied from spraying and dusting with poison and contact insecticides, or the clipping of the tassels, to burning the moths in crude oil flambeaux or torches. In regard to burning, torches were to be distributed in the corn fields and the moths were supposed to be attracted to the flame by the light. Most of these

methods of control were suggested by those who had little or no knowledge of the life-history or habits of the insect. Their actual value, before being offered to the public, was rarely if ever properly tested, and proved to have had little more evidence of usefulness than could be expected from the enthusiasm of an inventor for his own invention. As far as is known, none of the unofficial control practices has proved of any real value.

Unquestionably the only generally effective, the cheapest and simplest control for the corn borer yet found consists of the disposal or destruction of the corn crop remnants of one year before June 1st of the following year. This may be done either by feeding the corn stalks or ploughing them under clean, together with the destruction of the stubble by ploughing it under clean and finally completing the job of clean-up by the burning of the refuse corn cobs and stalks in barnyard, feeding paddock or such as were left unploughed in the field, not later than June 1st.

The Pest Control Products Act administered by the Plant Products Division, Dominion Department of Agriculture, prohibits the sale of preparations claimed to control corn borer so that any product for this purpose is illegal. Farmers are advised not to buy any such products and to notify the Plant Products Division if any such products should be offered to them.

No. 179. Wed. March 27, 1940 — Odd Notes

The war is upon us in all its fury and some odd notes from the Government's Bureau of Public Information should be of great interest to all good Canadians.

A vast expansion in the South African steel industry is at present under way. The South African Iron and Steel Corporation has a present capacity of 340,000 ingot tons at its Pretoria works, but these are now being expanded to a capacity of 440,000 ingot tons. In addition new works are to be established where capacity will eventually equal that of the present works.

The full significance of the above expansion will be particularly appreciated when it is realized that iron and steel manufacturing in South Africa began on a large scale only in 1934.

The recent offer of the New Zealand Bank to lend one million pounds sterling free of interest to its Government for war purposes has been gratefully accepted by the New Zealand Government. The loan is for the duration of the war and six months after. Commenting on this very generous offer, Mr. Fraser, Deputy Prime Minister of New Zealand, said that although this was the most spectacular offer of assistance received by the Government, it was only one of many.

"I am far from thinking that the wounds inflicted on our civilization need be mortal. But I do think that we are fighting for its life; and inasmuch as that life finally depends upon the ideals that inspire it, I think we have no choice but to resist and defeat by force the attack to which those ideals — yours as well as mine — are now exposed." — Lord Halifax at Oxford.

The Department of National Defence announced recently that one hundred new cadets would be admitted to the Royal Military College September next. The academic year will be increased to last from September until the last week in July. Duration of courses is two years. The military standard will be maintained as before, while added emphasis is placed on the scientific and engineering education of the cadets. Cadets must be between the ages of sixteen and nineteen years.

Soldiers of the Canadian Active Service Force in Canada will be eligible for appointment as Commissioned Officers if they possess the primary qualifications for appointments in the Non-Permanent Active Militia of Canada. Qualifications as prescribed in the King's Regulations and Orders for the Canadian Militia include: recommendation from the commanding officer; residence within the recruiting area of his unit; certified physically fit; pass standard in matriculation examinations of a Canadian University or any Canadian province or pass in certain educational subjects at an examination set by the Department of National Defence. In addition candidates must be at least 18 years of age.

No. 180. Thurs. March 28, 1940 -- Odd Notes

Up to March 2, 1940, the British Contraband Control had seized roughly 595,000 tons of goods consigned to Germany. Twenty-five German merchant vessels have been captured and twenty-eight scuttled or sunk. In addition the Germans have lost far more by their usual imports never having been shipped.

On some 50 deep reconnaissance flights made by night by the Royal Air Force, only four aircraft are known to have been lost through enemy action.

An Aircraft Inspection Detachment Inspectors' School has been established under the British Commonwealth Air Training Plan in Toronto. Flying Officer A. S. Suddes is in command. Training commences April 29 and the school will turn out ten inspectors each month after a three months' course.

Six representatives each of the Canadian Red Cross, the Salvation Army, the Knights of Columbus and the Y. M. C. A. are carried on active strength with Canadian troops overseas. They are charged with carrying on welfare activities of their organizations in cooperation with representatives of the Directorate of Auxiliary Services.

Contributions amounting to \$177.00 were sent to the Canadian Government one day last week by Japanese citizens of British Columbia. Japanese employees of a lumber mill pooled \$95.00 as their contribution to Canada's war effort, while the Nanaimo Japanese Association forwarded \$77.00 for the same purpose. A Japanese individual of Bella Bella, B. C., sent along five dollars to help Canada carry on.

According to one of the American correspondents broadcasting from Berlin this week, the greeting "Heil Hitler!" which replaced the one-time "Gruss Gott!" is nowadays losing ground in Bavaria. "I hear that around Munich they are going back to God again."

An American pressman arranged with his monthly paper to send his reports from Germany in blue ink if true, and red ink if false. The first, written in blue ink, ran as follows:

"No grumbling; unity everywhere; conviction of victory. Food is plentiful; so are raw materials; red ink is the only commodity unobtainable."

No. 181. Fri. March 29, 1940 --- Smoked Eel

Faced with the necessity of establishing new markets due to the loss of overseas business brought about by disturbed world conditions, the province of Quebec with a yearly production of some 20,000 hundredweights of eels is giving attention to new methods of preparation of these fish.

Germany, formerly one of the preferred markets for eels, now of course is no longer on the Quebec export list. The demand for fresh and frozen eel in Canada and the United States is limited. Smoked and canned eel, however, is favoured with a greater demand, and it is believed there is a possibility of greatly increasing the market for these products.

Prior to smoking, the eel is eviscerated, skinned, salted in concentrated brine for one-half hour and allowed to drain for 15 minutes. The smoking is done in a smoke house of "type B", as designed by the Fisheries Research Board of Canada. The smoke box for eel smoking is made of terra-cotta and the inlet and outlet trunkways are made of sheet iron. The only modification brought about is the installation of a pipe two feet long and eight inches in diameter between the fan and the smoke producer. This pipe is equipped with a damper and serves to lodge a heating system. The heating system might be a six to eight kilowatt electric heater, but a flame of a large gasoline torch serves the purpose quite well. Smoking is carried out for five hours at 75 degrees. The smoker is then shut off and the temperature is raised to 150 degrees for one hour and a half to two hours. This temperature renders a good quantity of oil from the eel. The eels are then cooled and cut up into appropriate pieces, and wrapped in gold coloured cellophane and kept in a cool place.

No. 182. Sat. March 30, 1940 --- Increased Fish Catch

Canadian fishermen are making a valuable contribution to the war effort in the direction of increasing the supply of food. In four out of five sea fisheries provinces the February catch topped that of February, 1939, and was worth more to the fishermen at point of landing. Quebec, where fishing is never active at this time of year due to weather conditions, was the lone dissenter among advancing catches.

All told, the Dominion's landings of sea fish and shellfish during the month

amounted to 1,137,900 hundredweights and its landed value was \$669,100. This represented a catch almost double that taken in February 1939, and a comparative increase in landed value.

British Columbia herring continued the biggest contributor to the increase in total catch. On the Atlantic coast, however, substantial gains were recorded in the cod catch in Nova Scotia, and smelt and scallops catches in New Brunswick also were up. An extension of the smelt fishing season granted in New Brunswick area also assisted in swelling the total catch, and in consequence the total landed value.

British Columbia's catch for February totalled 1,005,500 hundredweights, roundly stated, as compared with 645,800 hundredweights taken in February last year. In landed value to the fishermen at point of landing the catch was worth \$342,600, while the same month last year produced a landed value of but \$189,800.

Heavy herring runs continued throughout the month. In all 970,200 hundredweights of these fish were taken, with a landed value of \$276,400. Last February's catch was worth \$128,900 as landed. Grayfish landings were also up some 5,700 hundredweights, and the clam catch increased by some 2,400 hundredweights as compared with February 1939.

Nova Scotia was the major producer on the Atlantic coast. Total landings, all varieties taken in Nova Scotia during February, reached an aggregate of 87,800 hundredweights, a gain of some 33,400 hundredweights compared with February 1939. Landed value of the Nova Scotian catch was \$217,200 as compared with \$113,800. Cod was the major contributor to the advance with landings of 37,900 hundredweights, an increase of some 23,600 hundredweights, but better smelt and scallops catches also played a part in the advance.

The lobster catch for February, 649 hundredweights, was taken mainly in Nova Scotia. Landed value totalled \$16,200. Last February 356 hundredweights of the shellfish worth \$8,100 were landed. Total catch for the season reached 25,200 hundredweights as against 23,300 taken thus far last year. In value an increase is also shown, \$420,500 as against \$384,400, up to the corresponding date in 1939.

No. 183. Sun. March 31, 1940 -- Rain for Grain

The amount of rain or other water required to make a satisfactory grain crop is a question of vast importance to the Prairie Provinces of Canada. In times of drought men pray in the churches for rain from Heaven and a shower brings blessing all over the land. It is life-giving.

So the scientists at the Soil Research Laboratory at the Swift Current Experimental Station in Saskatchewan have provided us with a very definite statement as to what an inch of water will do. From the data they have accumulated they have shown that from 1924 to 1939 wheat on summerfallow on the Prairies required 1,437 pounds of water for each pound of grain produced. Approximately 78 per cent of this was transpired by the plants and 22 per cent lost by evaporation.

One inch of rainfall over an acre is equivalent to 226,113 pounds of water which, on the basis of the above water requirements, is equal to 2.6 bushels of grain.

That is clear-cut information that will be of great service in estimating wheat and other grain crops.

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James Muir,

Editor.

from the

Dominion Bureau of Statistics

No. 214. Wed. May 1, 1940 - Opening of Navigation

The opening of navigation on the St. Lawrence River again directs attention to Canada's system of inland waterways, which extends into the heart of the continent and is among the most remarkable in the world. Navigation of this system of waterways has been made possible by the construction of canals, and because of their rich historical associations and their contributions to the economic and industrial progress of Canada these canals are being commemorated by the erection of suitable memorials. This work is being carried out by the National Parks Bureau of the Department of Mines and Resources in co-operation with the Historic Sites and Monuments Board of Canada.

Long before the period of extensive railway construction which commenced for Canada in the 1850's, the water routes, more especially the St. Lawrence, the Great Lakes and the Ottawa, were the chief avenues of transportation. The first lock canal in Canada was built on the St. Lawrence River by Royal Engineers under Governor Haldimand between 1779 and 1783 to overcome the Cascades, Cedar and Coteau rapids. This canal was used for the transport of military stores and for commercial purposes. It was enlarged in 1804 and again in 1817, and finally replaced by the present Soulanges Canal, built 1892-1900. one of the eight canals which overcome natural obstructions in the St. Lawrence and Great Lakes waterways, connecting Western Canada with the Atlantic. The other canals in this great 2,000-mile water route are the Lachine, Cornwall, Farran's Point, Rapide Plat, Galops, Welland, and Sault Ste. Marie. From the head of Lake Superior to Montreal these canals overcome a drop of more than 550 feet.

Nature was generous to Canada in supplying navigable rivers and lakes, many of which were first used as avenues of transport by the historic fur trade. Many of these water routes would have had little commercial value were it not for the industry and ingenuity of early Canadian engineers, and in commemorating her canals pays national tribute to the work of those intrepid nation builders.

No. 215. Thurs. May 2, 1940 - Prevention of Soil Drifting

One of the disturbing things about certain portions of the West in recent years has been soil drifting. What caused it, what steps can be taken to restore previous conditions and prevent recurrence is of interest to everyone. It is of national concern. A very informative statement on the subject comes from the Dominion Experimental Farm at Melfort, Saskatchewan. It says:

Soil drifting has occurred to a considerable extent in North Eastern Saskatchewan during the past few years. While no extensive loss has occurred in the North Eastern area as in the Southern part of the province, the fact that the soil has been drifting indicates that under the present cropping system, the soil binding materials, fibre and organic matter, are being depleted.

Before the land in this area was broken up, it had grown grass for centuries. During this time the fibre and organic matter were built up to the highest obtainable under the prevailing climatic conditions. Since the advent of the farms and

the continued practise of summerfallowing and cropping with grain, these essential constituents of soil have been seriously depleted. The condition now exists in which the small mineral particles of the soil are no longer held together, and they are readily transported by winds. In order to prevent this condition from becoming more serious than it is now, the method of growing grasses which was used by nature might well be adopted.

Grass crops, by virtue of their extensive fibrous root systems, provide the only practical method of adding fibre to the soil. The fine roots of the grass penetrate all through the soil particles and when plowed up hold them together. These roots in most grasses resist the action of soil bacteria and remain in the ground for several years, giving the soil much needed protection from the wind. When they become decayed eventually the elements they contain are made available as food for plants.

In an area like North Eastern Saskatchewan, where stands of grass are easy to obtain and the crop grows so well, there seems to be no reason why grass crops should not be included in the cropping system. It would not be practical to seed all the farm to grass at once, but over a period of time it could be arranged so that all the land would have been in grass for a few years. During the time the land is in grass, the feed obtained can be utilized by livestock in the form of hay or pasture. This adds another source of income to the farm and tends to stabilize the setup. The manure produced by the livestock when put back on the land is a valuable means of adding organic matter to the soil as well as increasing the productivity.

Soil drifting is often more serious on land that has been eroded by water during the spring runoff. Under such circumstances, prevention of water erosion also helps to prevent wind erosion. Here again the use of grass crops is the most practical method of preventing damage. The fibre and organic matter added to the soil makes water penetration easier and quicker, thereby reducing the amount of runoff and damage. This method is particularly effective where the land lies in long gentle slopes as it does in many parts of this area.

Considering the damage that has been done to soils in other parts of the world, those who farm in North Eastern Saskatchewan, where serious wind damage has not yet occurred, might well observe the old adage: "an ounce of prevention is worth a pound of cure". Changing the cropping system to include grass crops which add fibre to the soil may prevent untold losses in the future.

No. 216. Fri. May 3, 1940 - The Pesky Mosquito

The pesky mosquitos will be with us soon again, making twilight out of doors a misery where they abound. In some sections of the county, notably in the north-land where the march of men has not controlled such enemies, the mosquito is a definite and fierce pest at certain seasons of the year. Even in some of our large cities we suffer.

Scientists tell us that two thousand or more species of mosquitos occur in various parts of the world, and 65 of the species are with us in Canada. Champlain in the story of his historic journey down the Trent River and Valley tells of his experiences with these buzzing and stinging insects.

We are told quite positively it is the female mosquito that bites; the male sucks only plant juices. She may drink twice her own weight of blood and it takes her about ninety seconds to become fully engorged. Domestic and wild animals and birds are attacked as well as man, but some species prefer animals to man. Some mosquitoes may live for several weeks or even months under favourable conditions.

All mosquitoes pass their early life stages in water, and, because this is so, it is possible to control them by eliminating the breeding places by drainage or filling, or by applying an oil film to the surface of the infested water.

Many preparations for personal protection against mosquito bites have been recommended from time to time. Among the most commonly used are oil of citronella, spirits of camphor, oil of cedar and oil of lavender. A mixture of oil of thyme, one part, concentrated pyrethrum extract, two parts, and castor oil or olive oil, five parts has been found to give satisfaction.

No. 217. Sat. May 4, 1940 - The House Fly

At a time like this, when every available effort is being made to increase our efficiency, what seem, or used to seem, little things become important. Until very recent years the housefly was regarded merely as a pest but of no serious importance. It is now known, however, that the housefly carries many serious diseases such as typhoid, infantile diarrhoea (summer complaint), cholera, dysentery, leprosy, various dangerous eye diseases (types of ophthalmia, trachoma) and tuberculosis, besides carrying the eggs of certain tape worms.

The housefly can lay large numbers of eggs, probably averaging one thousand, which hatch in a few hours. Development is rapid and in warm weather a new generation of flies may be produced every ten or twelve days. It will thus be seen that it is of the utmost importance to kill houseflies early in the season.

One of the chief dangers from flies lies in their varied food habits. Not only do they feed on all kinds of filth, but will alight on most of the foods laid out on the table for a meal, contaminating everything they touch.

To control this dangerous pest, fly traps, door and window screens, fly swatters, sticky papers, poisoned baits and fly sprays are used. An effective and safe bait is made by adding a teaspoonful of formalin to a pint of water or dilute milk in a saucer. It should be placed out of reach of children. Fly sprays made of $\frac{1}{2}$ pound of flowers of pyrethrum to a gallon of kerosene are effective.

The best control of houseflies is by eliminating their breeding places. The most important of these are manure piles and garbage dumps. Manure storage should be so constructed as to discourage breeding and the pile treated with borax solution. Garbage should be stored in fly proof containers until disposed of. Community action is essential if the fly population in any district is to be sharply reduced.

No. 218. Sun. May 5, 1940 - Wartime Prices and Trade Board

Let us see what the Wartime Prices and Trade Board has been doing while vested with enormous powers, the board has sought results in its efforts to curb hoarding

and wartime profiteering through co-operation rather than prosecution, a summary of the board's work, released here, says. All steps have been designed, it states, to encourage production and conservation, to prevent individual hoarding and the holding of commodities for a price rise, and to eliminate undue markups and unwarranted price increases.

"The principle guiding its activities in stabilization of prices has consisted of efforts to provide an adequate and regular flow of supplies to the Canadian market, rather than in any attempt at wide-spread price-fixing or price control."

Investigations carried out by the board to date have varied in character and extent, the summary says. "Some involved merely alleged instances of hoarding and profiteering on the part of individuals; with others it was necessary to co-ordinate a whole industry and its distributing agencies in order to assure an adequate distribution of some one commodity to the consumer at a fair price."

Investigations conducted by the board and its technical staff, largely borrowed from other government departments, covered the supply and distribution of sugar, textiles, fuel, leather, beans, flour, mill feeds, cod liver oil and other necessities.

The board "has acted on the belief that if ample supplies are available, freedom of enterprise encouraged, monopolistic tendencies curbed or controlled, and sporadic instances of profiteering dealt with, fair and reasonable prices would be maintained." To prevent profiteering the board has queried hundreds of dealers about their prices, and without labelling many thoughtless individuals as criminals, it has obtained its results through co-operation, although legal steps were taken when necessary.

Investigation is done through co-operation of the government Weights and Measures Service and the Royal Canadian Mounted Police. A constant check is being kept on retail prices from Halifax to Vancouver to assure that they are in line with the prices of raw materials and wholesale prices.

The board is giving special attention to building up statistics of inventories and supplies. In several industries it is maintaining a constant record of production, distribution and location of existing stocks of goods.

Administrators have been appointed for four commodities—sugar, wool, hides and leather and coal. All are \$1-a-year men.

No. 219. Mon. May 6, 1940 - Grass for Vitamins

One of the stories from the Bible that stick in one's mind is that Nebuchadnezzar, at a certain period of his life, was condemned to eat grass for the rest of his days. Some people aver that he simply became a vegetarian. Certainly it is difficult to believe that he travelled on hands and knees around a pasture and munched grass like a cow.

Lots of people who do not claim to be scientists believe, however, that there is a great deal of nourishment for humans in grass and there is no doubt that men lost in the wilds have managed to subsist for some time on the grass of the fields.

Now comes along the definite scientific discovery that man can get more vitamins by eating grass than from all the other plants and fruits put together. Twelve

pounds of the grass that the lawnmower cuts, it is stated, contain more vitamins than 340 pounds of all other fruits and vegetables which is more fruits and vegetables than the average person eats in a year. This important discovery was made public by the American Chemical Society at its meeting a few weeks ago.

Getting back to the Nebuchadnezzar incident, it is stated by the scientists that if man could eat grass like animals, he would get all the vitamins except D. Raw grass is not palatable, however, and when sun-dried it loses vitamins, but in recent years agricultural scientists have discovered that quick drying preserves most of the vitamin content.

Chemists dried the grass in a flash light temperature. Then they powdered it, and found that if it is sealed in containers filled with nitrogen, the vitamins last unimpaired for about two years. Reports contend that the grass powder can be made cheaply enough to be put in common foods with little expense. That would put the vitamins within reach of the most modest pocketbook.

Grass apparently contains, among other things, the "gray hair factor". It has darkened the hair of the laboratory animals, and has had a slight effect in darkening graying human hair. It is important to nerves and has cured some cases of human paralysis.

No. 220. Tues. May 7, 1940 - Increase in Smoking

Canadians are smoking more tobacco than they ever did. The quantity of tobacco entering into domestic consumption has shown a gradual increase from 37,842,000 pounds in 1929-30 to 47,330,000 pounds in 1938-39. During this ten-year period, production, estimated on the basis of re-dried weight, has increased from 25,686,000 pounds in 1929-30 to 88,302,000 pounds in 1938-39. Exports have also increased from 5,804,000 pounds in 1929-30 to 34,002,000 pounds in 1938-39, while imports during the same period dropped from 17,960,000 pounds in 1929-30 to 4,577,000 pounds in 1938-39. Total stocks at September 30, 1939, amounting to 74,567,000 pounds, were the highest reported at that date since the assembling of these data was instituted by this Bureau in 1934. The annual domestic consumption over the past ten years has averaged approximately 42 million pounds.

The proportion of home-grown tobacco used in Canadian manufacture rose steadily from 54 per cent in 1930 to 89 per cent in 1938. The increase has been chiefly in flue-cured varieties, and is accounted for by the increase in the domestic consumption of manufactured tobacco products, particularly cigarettes, while at the same time there has been a steady improvement in the quality of the locally grown flue-cured leaf.

A report issued by the Bureau says: "Again in 1939, for the third successive year, Canadian tobacco production set a new high record. The harvest of 109,846,000 pounds from 91,035 acres was 8 per cent greater than the crop of 101,394,600 pounds from 83,575 acres in 1938. The greatest expansion was in the area planted to flue-cured tobacco, particularly in Quebec. Increases were also shown for burley tobacco in Ontario and the pipe varieties in Quebec, while there was a decrease in the area planted to cigar leaf.

"The further expansion in the production of flue-cured tobacco in 1939 was stimulated by the prospect of an increased outlet in the United Kingdom for this type, exports of which reached a peak of 26,684,733 pounds in the crop year ended

September 1939. The virtual closing of this market, following the outbreak of hostilities in September, with total imports of Canadian tobacco restricted to 8 million pounds, has created an acute marketing problem for which no immediate solution is in sight. Present prospects are for a carryover into the 1940-41 crop year of an unsold surplus of approximately 30 million pounds of flue-cured tobacco."

No. 221. Wed. May 8, 1940 - Junior Farm Clubs.

In the 1939 annual report of the directors of the Canadian Council on Boys' and Girls' Club Work it is noted that the largest annual increase in club membership since the Council was formed in 1931 occurred during the year. The total membership for 1939 throughout Canada was 45,314, compared with 37,254 in 1938. This is an increase of 8,060, or 21 per cent. As a matter of fact, the club membership since 1931 has more than doubled. In 1931 the membership was 21,142.

The effectiveness of junior club work as a factor in agricultural extension activities, has long been recognized and its value in the improvement of farm practices becomes more evident each year. The advancement being made in club work is not by any means limited to mere membership. Reports and observation indicate steady progress in the improvement of the character of the work, in the development of its educational phases, and in the planning of club programs. Progress in this direction, by making club work more useful and effective, has no doubt been an incentive to build up membership.

At the same time, volume of membership is not the only, and perhaps not the best medium, by which the true value of any movement may be measured, but the steady expansion which junior farm club work has experienced over a period of many years clearly indicates that its worth and possibilities are widely recognized. It is a notable fact that the growth of this junior activity is the result of a strong demand from farm communities for club organization, so much so that it has been found difficult in some cases to comply with all requests for the establishment of junior clubs.

Preliminary reports indicate that 1940 will be a good year for junior club work.

No. 222. Thurs. May 9, 1940 - Evolution of Manufacturing

The type of manufactures established in a community will, in the beginning, be determined largely by the raw materials available in that community, more especially where transportation charges are high. For example, the first agricultural process to be carried on by Europeans in what is now the Dominion of Canada was probably the raising of a crop of grain at Port Royal, Nova Scotia, in 1605; the first corresponding manufacturing process was the grinding of the grain in the autumn of that year. Other early manufactures were necessarily connected with the satisfaction of the primary needs of human being for food, clothing, and shelter, and with the other primary need--protection.

Since the earliest settlements two main influences have been operating upon the development of manufacturing in Canada; first, the domestic requirements of the growing Canadian population; and secondly, the processing of natural products of Canada to change them to more suitable forms for export. The

comparatively small home market, a large part of it in scattered agricultural areas, has always limited the range of goods which may be economically manufactured in Canada for that market. As the Canadian population increases and as the means of distribution improve, the range of goods that may be efficiently manufactured for the home market is being constantly widened, although, as the general standard of living in Canada rises, the variety of fabricated goods for which there is an effective demand within the country is continually expanding, so that there will always be a place in the Canadian market for imports of highly fabricated goods.

A striking modern feature of manufacture for the home market is the importation of raw materials not indigenous to Canada for the production of goods for which there is a large domestic market. Typical examples are the cotton textile and the rubber goods industries. Furthermore, a large iron and steel industry has grown up in Nova Scotia, Quebec and Ontario, dependent upon imported iron ore from Newfoundland and the United States.

From the beginning, important manufacturing operations in Canada have been associated with the preparation of natural products for export. Early examples were the curing of fish and furs and the preparation of forest products. In the days of wooden ships, shipbuilding was an important industry along the St. Lawrence and in the Maritime Provinces. Similarly, under modern conditions, the largest industries are mainly based upon the country's natural resources in agriculture, forest, and minerals, while cheap water power is an important factor in the ability of these great manufactures to compete successfully in world markets.

Under modern conditions the major part of Canada's exports of natural products have undergone some manufacturing process before being shipped abroad. Typical examples are: wheat flour, dairy products, and dressed meats arising from the agricultural resources; lumber, shingles, and pulp and paper from the forests; refined metals from the mines; and cured and canned fish from the Atlantic and Pacific fisheries.

No. 223. Thurs. May 10, 1940 - Growth of Manufacturing

Until the later '90s, the growth of Canadian manufacturing industries was not particularly rapid, though the great fall in the prices of commodities during the period from 1873 to 1897 was largely responsible for the comparatively slow growth of the gross values of manufactured commodities from \$221,600,000 in 1870 to \$469,800,000 in 1890. Afterwards there was a change and the prices of commodities commenced to rise, while the industries generally shared in the advantages of the great growing period from 1900 to 1912. The gross product of establishments with five hands or over increased from \$368,700,000 in 1890 to \$1,166,000,000 in 1910, and to \$1,381,500,000 in 1915.

The influence of the war of 1914-18 upon the manufactures of Canada was profound and far-reaching, tending to promote the diversification of products and the production at home of many commodities which had previously been imported. On account of the practical suspension of the importation of manufactured goods of many kinds from Europe, enterprising Canadian manufactures were given opportunities of entering upon new lines of manufacture with practical control of the market. There was added to this the reflex effect of the great prosperity of agriculture, produced by the unprecedented prices of war time, with the general result that industry worked at high pressure. Incidentally factory methods became more specialized, a high degree of administrative and mechanical efficiency was attained,

and Canada became an important industrial country.

Since the annual Census of Manufactures was begun only in 1917, the growth of manufacturing production during the first years of the war of 1914-18 cannot be shown. Figures of 1915 are not on a strictly comparable basis with those of later years. However, the effect of the inflation of the war period, which reached its height in the summer of 1920, is evident. The course of manufacturing production thereafter throughout the 1920's is clearly shown. In 1929 gross values of production exceeded those of 1920, although the prices of manufactured goods had dropped about 41 p.c. in the intervening period.

In 1917 the gross value of manufactured products, with cost of fuel, electricity and materials deducted, was \$2,820,000,000; 1919, \$3,227,000,000; 1920, \$3,706,000,000; 1929, \$3,893,000,000; 1933, \$1,954,000,000; 1937, \$3,625,000,000.

It should be noted carefully that volume and value must be considered together to get a proper perspective. Thus the index of wholesale prices on the 1926-100 base was only 67.1, while the index of volume in the same year was 82.0. Again in 1937 the wholesale price index 80.5, but the volume index had risen to 132.0.

No. 224. Sat. May 11, 1940 - Size of Factories

A modern characteristic of industry in all industrial countries has been the increase in the size of the typical manufacturing establishment. Full utilization of highly specialized machinery has necessitated large-scale production, while improvements in transportation have widened markets.

The size of the manufacturing establishment is generally measured either by the value of product, or by the number of employees, but each of these methods has its limitations. The latter takes no account of the differences in capital equipment at different times or in various industries and obviously the increased use of machinery, as in the flour-milling industry, may lead to an increase in production concurrently with a decrease in number of employees. The former measure has to be adjusted for changes in the price level; and, as between industries, it makes those in which the cost of raw materials is relatively high, appear to operate on a larger scale. Both measures depend on the fluctuation of business activity and the demand of the consumer; over any lengthy period of time there is also the difficulty of comparability resulting from changes in the method of the census.

While in 1922 the 420 establishments each producing over \$1,000,000 had an aggregate value of products of \$1,268,056,129 or 51 p.c. of the total production of all manufacturing industries, the 719 establishments producing over \$1,000,000 each in 1929 had an aggregate value of products of \$2,516,064,954, or 62 p.c. of the grand total for all manufacturing establishments--a very significant change in the short period of eight years. In 1931, however, the number of plants with a production of over \$1,000,000 dropped again to 482, their output being valued at \$1,451,658,954 or 53 p.c. of the total. Due to the elimination of central electric stations, the figures since 1932 are not directly comparable with those for 1929 or 1922.

In 1923, establishments employing 501 hands or over accounted for 21.4 p.c. of the total number of employees engaged in manufacturing. By 1929 the proportion had increased to 27.3 p.c. of the total, thereby showing the increasing concentration of production into larger units. This tendency, however, was checked by

the depression, the percentage having dropped in 1933 to 20.5 p.c. (central electric stations included). With the recovery in production since 1933 the percentage has risen again and in 1937 stood at 27.1 p.c. The same also holds true for all establishments employing 101 hands or over. In 1923 they employed 58.6 p.c. of the total, in 1929, 61.9 p.c., in 1933, 55.7 p.c., and in 1937, 62.8 p.c.

Concentration is extremely marked in the cases of non-ferrous metal smelting, automobiles, pulp and paper, petroleum products, railway rolling-stock, slaughtering and meat packing, and rubber goods, whereas in the cases of men's and women's factory clothing, bread and bakery products, and butter and cheese, the degree of concentration is low. With regard to flour and feed mills, concentration is marked in the case of flour mills, but the small size of the average feed mill offsets this for the industry as a whole

No. 225. Sun. May 12, 1940 -- Leading Manufacturing Provinces

Ontario and Quebec are the most important manufacturing provinces of Canada.. Their combined production in 1937 amounted to \$2,927,000,000 or over 80 p.c. of the gross value of manufactured products of the Dominion. The proximity of Ontario to the coal-fields of Pennsylvania, the water power and other varied resources of the two provinces, and their nearness to the larger markets of Canada and the United States have all contributed to the above result. British Columbia had in 1937 the third largest gross manufacturing production with 7.0 p.c. of the total, and Manitoba the fourth with 4.0 p.c.; Alberta, Nova Scotia, New Brunswick, Saskatchewan, and Prince Edward Island followed in the order named.

The outstanding predominance of Ontario and Quebec is most nearly approached by British Columbia in the case of the wood and paper products group, where the latter province accounts for 16.0 p.c. of the gross production compared with 39.0 p.c. for Ontario and 32.1 p.c. for Quebec; in each of the other groups the positions of Ontario and Quebec lead by a wide margin.

British Columbia, the third manufacturing province, has, in point of size, 41 establishments with individual gross production of over \$1,000,000, compared with 305 for Ontario, 177 for Quebec, 22 for Manitoba, 18 for Alberta, 13 for Nova Scotia, 12 for New Brunswick, and 9 for Saskatchewan. Capital investment, employees, and other factors show variation, in proportion to the size of establishment and according to the nature of the industries concerned, (the 3 in Manitoba with production of over \$5,000,000 for instance, employ over five times as many persons as the 3 in the same class in Saskatchewan, and the 4 in the same class in British Columbia employ over thirteen times as many on the average as the 3 in Saskatchewan) but in a broad way the factor of size is reflected throughout the statistics.

The gross value of the manufactured products of Ontario in 1937 represented about 52 p.c. of the total for the whole Dominion, while that of Quebec amounted to about 29 p.c. This premier position in manufacturing has been fairly uniformly maintained by Ontario, as the following percentages show: in 1926, 52 p.c.; 1918, 53 p.c.; 1910, 50 p.c.; 1900, 50 p.c.; and 1890, 51 p.c. In spite of the rapid industrial development in recent years in other provinces, such as Quebec, British Columbia, and Manitoba, Ontario is maintaining a manufacturing production roughly equal to that of the remainder of the Dominion.

Among the assets of Quebec, which have tended to develop manufacturing industries in the province, may be mentioned its natural resources of forests,

water powers, minerals, and agricultural lands, and also its geographic position astride the St. Lawrence estuary permitting sea-going shipping to reach its main centres of population. Added to these natural advantages, there is a stable and industrious population, which is an important factor in industries such as textiles, clothing, boots and shoes, etc., where a large labour force is required.

No. 226. Mon. May 13, 1940 - Manufacturing in Other Provinces

The leading industries of the Prairie Provinces are those based on their agricultural resources -- their grain-growing, cattle-raising, and dairying areas. Next in importance, generally, are industries serving the resident population such as bread and baking, printing and publishing, etc. The extensive railway services require large shops for the maintenance of rolling-stock. The widespread use of motor vehicles and power machinery on farms has given rise to petroleum refineries in each province. The greatly increased production of crude petroleum in Alberta seems likely to lead to further development of the refining industry. Manitoba, as the early commercial centre of the prairies, has had a greater industrial development than either of the other provinces. Its natural resources of accessible water powers, forests, and, more recently, minerals, have given rise to quite a diversification of industrial production.

Considering the three provinces as an economic group, slaughtering and meat packing had the largest gross production in 1937, amounting to \$60,800,000, followed by flour milling with \$43,900,000, and butter and cheese with \$26,600,000. These three industries for the processing of the agricultural products of the provinces accounted for 45 p.c. of their total manufacturing production.

In Prince Edward Island the predominant agricultural and fishery resources make butter and cheese, fish curing and packing, and foods, stock and poultry the leading manufactures of the province. Nova Scotia is renowned for its coal mines and its fisheries, but it has also extensive forests and agricultural lands and is favoured with easy access by sea to the high-grade iron ore supply of Newfoundland. These resources give rise to its leading manufactures of primary iron and steel, railway rolling-stock, fish curing and packing, pulp and paper, saw-mills, and butter and cheese. The forests of New Brunswick give a leading place to its pulp and paper and sawmilling industries, although manufactures of fish and agricultural products add to the varied output of the province.

No. 227 Tues. May 14, 1940 - Netherlands at War

The Netherlands is at war. Holland has been invaded by the Hitler army. The main preparation for this invasion appears to have been what is now familiar, known as the "Fifth Column." In other words, there are German soldiers in Holland everywhere, men who have been going into the country for years under all sorts of guises, assimilating themselves outwardly with the native population, proclaiming themselves as refugees from the brutal savagery of the Nazi regime, and so forth.

At this time a refreshing of our information regarding the Netherlands will be useful. It is a Kingdom, the present sovereign being Queen Wilhelmina, who succeeded her father in 1890 at the age of ten. The heiress apparent is her daughter, Princess Juliana, of Orange-Nassau, who in 1937 married Prince Bernhard of Lippe Biesterfeld.

Holland is a democracy, with a population of over eight and a half million. About 55 per cent belong to the Reformed Churches; most of the remainder are Roman Catholics and Jews. The land is flat and low and almost half of the country is below the level of the sea, protected by dykes. They are a peaceful, industrious people with a great variety of products and manufactures. Amsterdam is famous for its diamond cutting. The area of the country is over 13,000 square miles, or about half the size of New Brunswick.

Private state-aided primary instruction rather than public is encouraged. Although the latter is provided by local taxation, if required. The seat of government is The Hague, but the capital is Amsterdam, with a population of 800,000. The famous port of Rotterdam has 600,000. The Hague for a long period was the centre of European peace movements, and only recently Queen Wilhelmina made overtures to Germany, suggesting that Holland was willing to play her part in bringing about the cessation of hostilities in Europe.

The Home Defence forces consist of about seven thousand soldiers, and there is an annual conscript levy which produced over 30,000 men, who serve for eleven months. The first line army on mobilization numbers about 114,000 with 270,000 reserves of all ranks. The Royal Navy consists of 12 protected and 60 unprotected vessels. There are about 30 submarines.

The Netherlands, once a dominating world power, has large and important colonial possessions, particularly in the East Indies. The Island of Java is probably the best known. The leading colony in the West Indies includes Surinam, or Dutch Guiana, on the mainland of South America.

Canada's trade with The Netherlands is important. Our exports to that country last year were valued at \$7,357,000 while our imports reached \$3,795,000.

No. 228. Wed. May 15, 1940 - Belgium at War

Belgium is again at war, as she was a quarter of a century ago. This time again Germany is the invader and has struck hard and swift at the gallant little country.

Belgium is a constitutional monarchy. King Albert, whose name rang throughout the world in the war of 1914-18 as a brave and democratic leader, was killed in 1934 in an Alpine accident. His son, Leopold, like his father, is with the forces. His wife, Princess Astrid of Sweden, was killed in a motor accident in 1935.

Belgium has an area of 11,750 square miles, or half the size of Nova Scotia. The kingdom formed part of the "Low Countries" (Netherlands) from 1815 to 1830 when independence was proclaimed. At a conference of the European powers, the neutrality and inviolability of Belgium was guaranteed by Austria, France, Great Britain, Prussia, the Netherlands, and Russia. This was the famous "Scrap of Paper" the Germans tore up in 1914.

Belgium is inhabited by two distinct races, the Flemish of Germanic stock, and the Walloons of Latin stock. The official languages are Flemish and French. The town of Brussels is bilingual and the upper classes everywhere speak French. German is spoken in the districts acquired after the war. The Meuse and its tributary the Sambre divide the country into two distinct regions, that in the west being generally

level and fertile whilst the table-land of the Ardennes in the East has for the most part a poor soil. The "polders" near the coast, which are protected by dykes against floods, cover an area of 193 square miles.

The country is governed by the king, senate and house of representatives. There is universal male suffrage, with plural voting up to three votes by property and educational qualifications. There has been proportional representation since 1900.

The army of defence is based on the system of compulsory service, the total annual class being about 44,000 which with postponed services from previous years and long-service soldiers make a total of over 80,000. Most of the maritime trade is carried on in foreign bottoms, the mercantile marine consisting of 125 vessels. The principal port is Antwerp, with a population of over three-quarters of a million. Brussels, the capital, has a population of over one million and a quarter.

The principal overseas possession is the Belgian Congo, founded in 1885, as an independent state, but which became a Belgian colony in 1908. It has an area of over 900,000 square miles and a native population of eleven million. Since the Great War, two of the German East African colonies have been governed by Belgium under mandate.

In 1939 we sent goods to Belgium to the value of \$7,261,000 and imported \$6,778,000 worth.

No. 229. Thurs. May 16, 1940. - Tourist Travel

Travel has its roots deep in antiquity. One of the earliest incentives was the desire to trade. We read that Joseph's jealous brethren sold him to a travelling company of Ishmaelites, with their camels carrying spicery and balm and myrrh down to Egypt. The search for new trade routes from Europe to the Far East led to more than two hundred years of exploration and, incidentally, to the discovery of a new world.

In addition to the desire for profit through trade, two other leading motives for travel have existed down through the ages, namely, missionary zeal and curiosity. The latter is, perhaps, the chief motivating force in tourist travel as we know it today although even the ancient Greeks and Romans travelled for pleasure, health and education. In general, however, it may be said that, down to comparatively recent times, the difficulties, dangers, and cost of travel were such as to keep it of extremely limited proportions.

The widespread application of mechanization in the sphere of transportation in the nineteenth and twentieth centuries made possible a tremendous expansion. With the progressive improvement in railway and steamship facilities and the evolution of new forms of transportation, such as the automobile and the aeroplane, travel became easy, speedy, and comparatively cheap. The betterment of transportation facilities was accompanied by other significant developments, such as the more general distribution of wealth and education, the breaking down of class barriers, and the increasing leisure of workers. Perhaps no single phenomenon better reflects the new and higher standard of living in the twentieth century than the extent to which the advantages of travel are now enjoyed by people in general.

The increase in travel in recent years exemplifies the gradually shifting emphasis on the importance of goods and services in the modern economy. In spite of temporary setbacks, such as wars and depressions, and much obvious mal-distribution, the fact remains that the world, as a whole, is being supplied with more and more goods produced with relatively less and less labour, and consequently many people are in a position to devote a smaller proportion of their income to goods and a larger proportion to services, among which travel is one of the more important. Travellers, from the economic point of view, are consumers, giving employment to large numbers of merchants, farmers, labourers, transport workers and others who serve their needs. Furthermore, the expenditure by foreign visitors, is for many countries an important factor in their balances of international payments, this invisible export helping them to pay for the goods and services they must buy from other countries.

The value of Canada's tourist trade reached its high point in 1929, when the estimated expenditures of her foreign visitors amounted to approximately \$309,000,000 while the expenditures of Canadian travellers in other countries totalled \$122,000,000. With the shrinking incomes and other concomitants of the depression which ensued, there were successive declines to the low point of 1933, when the expenditures of foreign travellers totalled only \$117,000,000, while those of Canadian travellers totalled \$51,000,000. The downward trend was reversed in 1934.

No. 230. Fri. May 17, 1940 - Overseas Visitors

Last year Canada had over 16,000 visitors who arrived by ocean ports to spend a little time in the Dominion. Almost every country of the world sent us a quota of tourists. The largest number came from England, no fewer than 6,918 as against 6,522 in 1938. It should be noted that none of these was an immigrant, all returning home after the holiday was over.

The next largest number was from Scotland with 2,048 as against 1,637 in 1938. Pro rata to population the tourists from Scotland far outnumbered those from any other overseas country. The proportion was one in every 2,364 of the residents of Scotland; from Northern Ireland there came 310 or one in every 4,129; from England 6,918, as said before or one in 5,400; from ~~Ire 104 or one in 25,519~~ 104 or one in 25,519; from Wales 90 or one in 28,800.

Altogether 10,972 came from Europe, the other countries contributing in the following order, with the figures for 1938 in brackets: France 392(339), Germany 272(787), Czechoslovakia 227(36), Belgium 115(87), Netherlands 94(80), Norway 77(161), Switzerland 62(62), Hungary 59(18), Italy 49(32), Poland 41(40), Denmark 35(79), Roumania 14(22), Sweden 11(38), Luxemburg 8(0), Finland 4(9), Ukraine 3(0), Greece 3(8), Spain 2(10), Danzig 2(2), Iceland 1(3), Russia 1(17), Yugoslavia 1(7), Estonia 0(3), Latvia 0(3), Lithuania 0(8).

There were 2,124 visitors from Oceania as follows: Australia 1,163(871), New Zealand 699(641), Hawaii 206(311), Fiji Islands 56(42).

The number from Asia was 2,005, distributed by countries as follows: China 900(598), Hong Kong 366(256), Japan 323(515), British India 213(182), Straits Settlements 81(49), Netherland East Indies 54(53), Philippines 44(40), Arabia 5(3), Korea 5(12), Persia 5(1), Palestine 4(14), Turkey 4(0), Siam 1(9), Iraq 0(2), Syria 0(4).

Visitors from Africa numbered 225 as follows: British Africa 204(124), Egypt 13(5), Non-British Africa 8(2).

Visitors by sea from North America totalled 492 as follows: U.S.A. 399(504), St. Pierre and Miquelon 61(53), Newfoundland 32(183).

Central American visitors by sea numbered 268 as follows: Jamaica 96(87), Bermuda 95(140), Trinidad 23(13), Bahamas 10(22), Barbados 8(10), Other British West Indies 23(12), Cuba 5(9), Mexico 5(2), British Honduras 1(2), Non-British Honduras 2(6).

South American visitors by sea came from the following countries: British Guiana 16(11), Argentina 13(14), Peru 7(5), Venezuela 7(3), Brazil 5(1).

Observe that the figures quoted above refer only to travellers who arrived at Canadian ports direct. There were others who arrived at United States ocean ports and afterwards came on to Canada. How many there were, we do not know exactly, but approximately they numbered 2,200 in 1939, 2,400 in 1938 and 3,500 in 1937.

No. 213. Sat. May 18, 1940 - Gypsum Products

The use of gypsum products in the building trades has made rapid progress in recent years because of their lightness, durability, fire-resisting, insulating and acoustic properties. Tiles, wallboards, block, and special insulating and acoustic plasters have been developed.

Gypsum production in Canada set an all-time tonnage record in 1939, when the output amounted to 1,408,188 tons valued at \$1,922,957 as against 1,008,799 tons valued at \$1,502,265 in 1938.

Canada ranked fifth among the world's gypsum producers during 1939, contributing 8 per cent of the world production and 38 per cent of that of the British Empire. The Dominion is fortunate in having extensive deposits of excellent grade gypsum, favourably situated for commercial exploitation. Nova Scotia is the largest producer, and is followed by Ontario, New Brunswick, Manitoba, and British Columbia. The materials produced are the hydrous calcium sulphate, commonly known as gypsum, the partly dehydrated material known as plaster of Paris, or wall plaster, and the anhydrous calcium sulphate known as anhydrite.

Prior to 1937 the Canadian production of anhydrite was exported principally for use as a fertilizer for the peanut crop in the Atlantic seaboard states of the southern United States, but there has since been an increasing market for this material in England, where it is used for the manufacture of sulphuric acid, ammonium sulphate, cement and special plasters. Owing to the war, overseas shipments have been curtailed, but it is possible that an industry will be started in Canada in which anhydrite will be used in the manufacture of products similar to those being marketed in England.

No. 232. Sun. May 19, 1940 - Planted Trout

Most Canadian sportsmen are familiar with the restocking programme whereby selected streams and lakes in the Maritime Provinces and British Columbia are stocked with fish from the various federal hatcheries, in order that the drain in sport fish population due to intensive fishing and natural enemies may be offset. But from time to time various opinions have been set forth as to whether or not these planted fish remain in schools at the point of distribution or whether they disperse throughout the planted waters.

In the case of the planting of small fingerlings it is difficult to determine the dispersal since these fish cannot be taken by anglers, the department of Fisheries tells us. To answer the question as to whether or not the small fingerlings spread over the planted waters, distributions of fall speckled trout fingerlings were made on the shores of Lake Kejimikujik in Nova Scotia in November with a check up made the following April. This investigation showed many of the fingerlings had traversed the five miles of the lake, descended the Liverpool river, and ascended other tributaries during the six-month period. Others of the marked fish had left the lake to ascend such inflowing streams as Mill brook, and adjacent waters.

The recaptures indicated also that though the liberation was made in the fall, between that time and the following spring, remarkable growth had been achieved. The average fish on distribution was slightly under six inches in size but by the time of recapture, had reached an average size of eight inches.

Possibly one of the most interesting points in connection with dispersal is the fact that speckled trout of apparently non-migratory strains, such as have been reared in the hatcheries for many fish generations, develop an anadromous habit, descending from the streams in which they are planted to the sea, where their recaptures are included with the capture of native sea trout.

Specific instances of this are shown in the returns from the distribution from Antigonish hatchery, where fish liberated in West River and Coosee Coffre Lake, were taken in Antigonish harbour, and in the estuary of the stream leading from Coosee Coffre lake to the sea, respectively.

No. 233. Mon. May 20, 1940 - Incidental Purchase in United States

When a Canadian pays a visit to the United States and stays a day or so, he comes under a tourist exemption clause which enables him to bring in goods duty free up to the value of \$100.00. Such purchases amounted last year to over nine million dollars.

It is quite evident in the returns that thrifty housewives had a prevailing influence in these under \$100 purchases, for the largest amounts came under the classificating of clothing, furniture and household appliances and boots and shoes. The men of the household, no doubt, fished a dollar or two out of their hip pockets for shoes, which is reminiscent of past days when the young Canadian sparker did not feel himself dressed up to the nines unless booted with elegant, sharp-pointed, footwear, popularly supposed to be a Boston product.

Clothing topped the list with a value of \$4,122,000, followed by furniture and household appliances at \$1,178,000. Gadgets for the kitchen played a prominent part. Boots and shoes came third at \$897,000.

The fourth class of goods brought in under the tourist exemption clause was radios. Very many of these were the little portable radios so handy on a holiday.

Wherever we go, we like to bring home some little knickknack as a memento of the visit, generally a gift to the family or the adored one who is expected in the course of time to come into the family. So, under the classification "Miscellaneous Articles," there was spent the large sum of \$1,822,000.

No. 234. Tues. May 21, 1940 - Electric Street Railways

The cheap and reasonably rapid conveyance of people about the city is highly important in the daily life of the average city dweller. Although there are modes to suite the most discriminating there is one phase of city transportation with which most of us are familiar - the electric street railway. These operate throughout Canada in most of the larger centres.

Replacing the horse-car systems, used in Montreal and Toronto as early as 1861, electric street railways were first seen in operation in Canada in 1885, when a successful experimental railway was constructed and operated at the Toronto Exhibition Grounds. Before many years their safety and convenience resulted in the discarding of the older systems.

The first electric railway line in Canada and probably the first in North America, which ran between Windsor and Walkerville, was established early in June, 1886. It is recorded that it was in active operation before June 11 of that year. An electric system seven miles in length was opened at St. Catharines in 1887, using the double overhead trolley. The third system was established in Victoria on February 23, 1890, and the fourth commenced operations in Vancouver in June, 1890. These were followed by the completion of the Ottawa Electric Railway in 1891 and the electrification of the Montreal and Toronto systems in 1892. The street railways of other eastern cities were generally electrified during the 1890's, while in the newer western cities electricity was used from the commencement.

In addition to street railways in the cities there are several systems serving suburban areas and also doing an inter-urban business, but this latter class of service is fast being supplanted by bus service. Indeed the development of motor vehicles, while providing competition for all forms of rail transportation, has affected electric railways more seriously than steam railways. The dependence of the former upon short-distance passenger traffic renders them particularly susceptible to the competition of motor vehicles.

A total of 629,778,738 passengers were carried on electric railways in Canada during 1938.

No. 235. Wed. May 22, 1940 - Operations in the Woods

Differences in forest conditions throughout Canada give rise to differences in logging methods. Generally speaking in Eastern Canada the climate is such that the cutting and hauling of logs can be carried on most economically during the fall and winter months. The trees are felled and the logs hauled to the nearest

stream or lake, where they are piled on the ice or sloping banks. The presence of connected systems of lakes and streams makes it possible in most cases to float the logs from the forest to the mill at a minimum cost during the annual spring freshets.

The logging industry east of the Rocky Mountains is, therefore, almost entirely seasonal. In many cases lumbermen co-operate in river-driving operations and improvement companies, financed by the logging operators, build river improvements to facilitate the passage of the floating logs, the logs being finally sorted and delivered to their respective owners. In British Columbia the scarcity of drivable streams and the greater average size of the logs give rise to entirely different logging methods. Logs are assembled by cable systems operated by donkey engines and are transported to the mills or to the water chiefly by logging railways but in many cases by motor trucks. These operations are mostly independent of frost, snow, or freshet and are carried on in most cases throughout the entire year.

In connection with operations in the woods it should be borne in mind that the forests not only provide the raw material for the sawmills, pulp-mills, wood distillation, charcoal, excelsior, and other plants but that they also provide logs, pulpwood and bolts for export in the unmanufactured state, and fuel, poles, railway ties, posts and fence rails, mining timber, piling, and other primary products, which are finished in the woods ready for use or exportation. There are also a number of minor forest products, such as Christmas trees, maple sugar and syrup, balsam gum, resin, cascara, moss and tanbark, which all go to swell the total.

A total of 2,378,795,000 cubic feet of home grown and imported forest products valued at \$129,190,388 was consumed in Canada in 1938, including wood used in the form in which it was taken from the woods and wood used as raw material in Canadian industry. This material forms about ninety per cent out our total cut. Of the total quantity used in Canada only about one half of one per cent is imported. During 1938 about 102 million cubic feet of standing timber or less than four per cent of the cut was exported.

No. 236. Thurs. May 23, 1940 - Some Old Cars

An automobile salesman came into the office the other day and told an interesting story. Three young men, all of whom had offered their services in connection with the war and were waiting for the call, had come into his place of business and said they wanted to buy a car.

He asked them how much money they wanted to spend. They mentioned \$50. He showed them a very old car of a once famous make, but now tattered and torn and it wouldn't run. The salesman admitted he was going to have it broken up.

They looked it over and agreed to buy it for \$50. "All right," he said, "Seeing you are going on active service for a while, I'll give it to you for \$10. If you fix it up I'll buy it back for \$50. When you go overseas."

The three young men were mechanical geniuses. Under their skilled hands the wheezing old vehicle left the yard purring sweetly and decked out in a new coat of paint, it was a smart job.

A day or two after the salesman left the Bureau, a report was received from British Columbia. Regarding the licences which had been issued for motor vehicles

during 1939. The list was divided into used cars, new cars and old cars, and amongst the old cars' licences, were some names of makes that, to put it mildly, one does not hear mentioned everyday; they are not advertised here so much as others. One seldom hears of an "A C" (Acedes), but there was one registered in B. C. last year. Here is a list of some of the "old cars" taken from the 96,737 licences that were issued.

Ajax 6, Alvis 2, Bentley 1, Bean 1, Biddle 1, Citroen 6, Cole 1, Cord 10, DeVaux 1, Diana 3, Dussenburg 1, Elgin 1, Fargo 1, Flint 5, Gardener 15, Gray Dort 4, Hertz 2, Kissell 5, Lexington 1, Lloyd 1, Locomobile 7, Might 1, Moon 87, Morris-Cowley 7, Morris-Minor 1, Morris-Oxford 1, Peugeot 1, Premier 1, Raleigh 1, Rickenbacker 8, Riley 1, Rollin 2, Talbot 1, Triumph 1, Vauxhall 2, Viking 8, Willys St. Claire 1, Windsor 1, Wolverine 4.

Some of the foregoing are still being manufactured in large quantities. The Morris and the Vauxhall are English cars and the Citroen is French.

No. 237. Fri. May 24, 1940. - The Platinum Fox

We are familiar with Platinum Blondes, or at least we have heard about them. Some of them may be quite natural, no doubt are. However, some of them change the color of their hair according to whim or whether the family purse is bulgy enough to stand the cost. From what we read and hear, there are a few around Hollywood.

The latest thing in fur is the Platinum Fox. Like the human species, there have always been such beauties in the fox family -- not many, but now and again. The White-faced Fox is another.

Up to now the Silver Fox has been the thing, and in the early days of the fur-farming industry enormous prices were paid for the animal. And while the silver fox still has its day, apparently the people with the money, ever on the alert for the latest, are paying high prices for platinum and white-faced fox pelts.

Both kinds are regarded as colour phases of the silver fox, having come originally from freak foxes in litters of silvers. These were segregated by the fur farmers and the novelty went across big.

In the official statistics up to now there is no separate classification of the platinum and the white-faced varieties and all such entries in the returns of fur farms have been counted as silver foxes. It is therefore impossible to give the number. Probably there will be a change in due course.

No. 238. Sat. May 25, 1940 - A B. C. Salmon Story

Who has not heard of the famous salmon fisheries of the Pacific Province which brings annually impressive returns to the fishermen of that province. In 1939, for instance, this immense salmon fishery produced a catch of 1,542,764 hundredweights.

But how many persons have any idea of the tremendous number of young salmon which must survive yearly to ensure an adequate replacement and development of the fisheries.

Some idea of the tremendous number of young salmon which migrate up various British Columbia streams can be gained from examination of a report by the Dominion Department of Fisheries from the Shuswap Lake area of the Kamloops district. In this case a tremendous movement of sockeye fingerlings was observed ascending Little River from Little Shuswap Lake to the big Shuswap Lake. A continuous procession of fingerlings, a foot to two feet in width, from one end of the river to the other, a distance of over two miles, was observed. The majority of the fingerlings were two inches in length or over and the movement continued for almost a complete month with breaks of hours, and later in the month of days.

Checking of the number of fingerlings passing a given point gave an estimate of 100 fingerlings to a square foot. Their speed of swimming was 40 feet a minute which meant 4,000 fingerlings passed each minute, or 240,000 each hour. In all, during the period of about a month, allowing for the breaks in migration occurring late in the month, it was estimated from twenty to twenty-five million fingerlings passed up this single stream.

Of course, by no means all these fish will ever reach maturity. Natural enemies prey on the little fellows, and natural hazards of other types cause heavy losses. It is for this reason that the Department of Fisheries finds it necessary to impose fishing restrictions, and other conservation measures to ensure that the fisheries will not be depleted.

No. 239. Sun. May 26, 1940 - The Chinchilla

Apparently the Chinchilla is the aristocrat of the fur bearing animals. Chinchilla coats have been sold at the low price of \$20,000 and some are said to have cost \$100,000. There are fewer than twenty of them on the American continent today, according to estimate.

The Chinchilla is a small rodent, native of the High Andes in South America. Facing extinction the governments of Peru, Chile and Bolivia banned the exportation of the pelts. However, some of the animals were brought to the United States and are being farmed and the industry has now reached Canada. To accustom them to the new conditions and rear them successfully has been a difficult problem. It took many years to accumulate enough pelts to make one coat.

So fine is the fur that the sense of touch does not register the contact until the fingers sink in half an inch. Stroking the fur brings out a play of colours -- of whites blending into pearl-gray, blue-gray and darker gray. The hides, although tough, are paper thin; therefore a chinchilla coat is light.

They are about the size of plum gray squirrels, and are monogamous. They mate for life and after mating, have no wish to associate with other adult chinchillas. Each pair is housed separately. Having no claws, they jump and run about with lightning speed.

A baby chinchilla is fully furred at birth and within an hour can run around. Its parent look after it with solicitous care. The father looks after the babies when the mother goes out to feed. At no time are the youngsters left alone, and so never into mischief.

When they are 75 days old the young ones are ready to leave the parental nest and they start paying court. Courtship goes on quite a while before mating. Before they have reached the advanced age of twelve months a new generation is born. From then on there are from one to three litters annually, and there are from one to four in each litter.

Chinchilla live eight or ten years. They make charming pets. Exceptionally clean in their habits they bathe in sand three times daily and are immaculately groomed.

The 1938 statistics show 60 chinchillas in Canada valued at \$96,000.

No. 240. Mon. May 27, 1940 - Prettying Up

The old-timers are finding it hard to keep up with the modern young lady. Fathers gulp more than a little when they see their daughters pencilling their eyebrows and painting their lips, not to mention coloring their finger nails in varied hues. He murmurs something under his breath, but stops short when mater strikes out for herself on the same road.

It even goes further than that. His boy has been to the barber's and comes back with a "permanent" displaying rows of curls to which nature never made him heir. So pater lumps it, pays the price and retaliates by scuttling the moustache he used to twirl so fondly.

Primping up is no more done in secret. A young lady in the street car, with never a blush, pulls something out of a handbag, and proceeds to dab all over her pretty face; next to her is a schoolboy combing his locks. Soon we shall think nothing of it.

It takes a lot of money to do all this dolling up. The factory prices of toilet preparations made in Canada are more than eight million dollars, according to 1938 figures. What they cost retail would be guess work. Then, if the purchaser is inclined for something from Paris it is going to cost a whole lot more.

These toilet preparations are divided into two classes -- alcoholic and non-alcoholic. The alcoholic preparations include perfumes, toilet waters and lotions. These are mainly Cologne water, Florida water, and Bay Rum.

There is no need to run over the whole list. One or two seem surprising. The factory production value of lipstick alone is given as one quarter of a million dollars, and if anyone has still the idea that the Canadian finger nail is not being well looked after, note that manicure preparations cost \$300,000.

Maybe the idea is general that bath salts are not much in vogue, No? Well, the factory value of these things is about \$120,000.

No. 241. Tues. May 28, 1940 - The Combine - Harvester

In 1939 over 400 combine-harvesters were in use in Eastern Canada. A survey conducted at the Central Experimental Farm, Ottawa, covering 32 per cent of these harvesters, shows that over 90 per cent of those reporting are satisfied with the combined method of harvesting.

The outstanding advantages of the combine method are a reduction in labour required at harvest time and a saving in cost when the harvester is used on sufficient acreage per year. It is estimated that about 12 acres per foot of cut of the harvester are required to justify the purchase of a combine on any farm with a tractor or sufficient work for a tractor.

The chief disadvantage of the combine method is that crops must be left till ripe or sufficiently dry to keep in storage before being harvested and that during the ripening period damage may occur from lodging, weed growth, wind or hail. Three years' experience has shown that on the average the loss from weather is small. However, there have been instances in which this natural loss was excessive. On the average, losses due to the operating mechanism of the combine have not been excessive and for certain crops the loss with the combine is normally less than with ordinary methods of handling. Woody or hilly conditions will increase machine losses.

Most combine operators are satisfied to handle straw from the combine in a manner similar to hay, with dump or side rake, loader and slings or a cutting box. The majority of operators reported no heating or difficulty in selling combined crops. A few reported heating where a crop was cut too early, too soon after a rain, or heavily infested with green weed seeds.

A few owners expressed the opinion that the combine was not satisfactory for custom work or that custom work would reduce the efficiency of the combine due to owners endeavoring to harvest too large an acreage. However, a large number of operators were most favorably inclined to custom work.

No. 242. Wed. May 29, 1940 - With the Air Men

So spectacular has been the performance of the Royal Air Force in the war that public interest has been aroused in all that pertains to air training in Canada as never before, and the Bureau of Information has provided some inkling of what is going on.

The first, class of pilots, air observers and gunners trained under the plan receiving instruction at the No. 1 Initial Training School in Toronto, while plans for the establishment of other schools in all parts of Canada are being pushed ahead well within the pre-arranged schedule.

Arrangements have been made for the preliminary training of personnel under the British Commonwealth Air Training Plan in Western Canada at No. 2 Manning Depot at Brandon, Manitoba. Recruits for schools now in operation, have heretofore, been secured through the Manning Depot in Toronto. Flight Lieut. R. M. Smith has been appointed to command the new Manning Depot, where recruits will be classed as pilots, observers, gunners, mechanics, accountants or clerks and sent to training schools in the Regina Training Command and to St. Thomas.

Squadron Leader Arthur Woods, Professor of Mathematics at University of Western Ontario, has been appointed Chief Supervisor Officer and Officer Commanding R.C.A.F. personnel at No. 1 Air Observers' School, Malton, Ont. This school, which is operated by Dominion Skyways (Training), Limited, will commence operations at the end of May, the first of ten such schools being established throughout Canada under the Empire scheme. Squadron Leader Woods saw service in the last war in the Army, the Royal Naval Air Service and the Royal Air Force.

In order to help those serving in the ranks to obtain an officer's commission in the C.A.S.F., the National Defence Department has announced that a high school leaving certificate or a certificate from a recognized Canadian university or of a provincial department of education that the candidate's education is considered equivalent to matriculation will be accepted in lieu of a pass standard in matriculation examinations of a recognized Canadian university.

The Department of National Defence announced during the past week the Royal Canadian Mounted Police would be required to furnish only reinforcements for the Provost Company now overseas and that in the formation of a provost company for the 2nd Division, C.A.S.F. the Department will look to other sources than the R.C.M.P.

No. 243. Thurs. May 30, 1940 - Searching for Gas and Oil

One of the very important needs of modern war is oil, oil and more oil. Canada's production of oil has become great national concern.

Timely information on the Lloydminster gas and oil area in Alberta and Saskatchewan is contained in a report issued by the Geological Survey. Based on field investigations the report deals with such subjects as the gas wells and their significance, regional structure, relation of possible structure to production, shallow gas production, and production of gas and oil. It includes a map of the well locations and structural contours, analysis of the gas and oil, and tabulated data on the several wells.

According to the report, thirteen wells have been drilled in the immediate vicinity of Lloydminster, and three others in Saskatchewan, a short distance to the southeast. Some of the thirteen wells contain gas in commercial volumes, which is used to meet local needs and four contain oil, two of the latter being in Alberta and two in Saskatchewan. The area first came into prominence in 1934 on the completion of Lloydminster No. 1 well. From October, 1934, to September, 1938, when it was flooded by water, the well produced a total of 267,763,000 cubic feet of gas. A second well, drilled about a mile east of the first was abandoned after striking salt water in a number of horizons. Interest in the area was stimulated however, by the completion in 1935 of Colony No. 1 well about two miles southeast of Lloydminster.

In a summary of the results of their investigations, it is pointed out that, as no continuous production tests have as yet been made of any of the oil wells, it is not known to what extent, if any, oil can be produced without some accompanying water. The fact, however, that gas and oil occur in the Lloydminster area in what appears now to be a structure of low relief is not only decidedly important in itself, but is even of greater importance as an indication of what may be eventually expected from the large area included within central eastern Alberta and western Saskatchewan.

No. 244. Fri. May 31, 1940 - Lobster

Lobster (*Homarus Americanus*) is possibly the most interesting of all Canadian shellfish. The life history of this species is unique in many respects, and is one of the most interesting studies of marine biology. The greater majority of the lobsters reach sexual maturity when about ten inches long, but their length at maturity varies from place to place depending on the temperature of the water. For example in the Gulf of St. Lawrence the average size at maturity is about eight and one-half inches, while around Grand Manan the other extreme occurs, and lobsters average 13 inches before becoming mature.

The number of eggs in the first spawning varies from about three thousand to nine thousand. Most authorities agree that lobsters spawn once every two years. The lobsters continue to grow until they reach a length of over twenty inches. The largest specimens captured have invariably proven to be males.

Egg-laying usually takes place in July and August, though sometimes later in the year. The eggs are extruded at one time and are not discharged to float about in the sea water until they hatch, as is the case with fish spawn, but become attached to the swimmerettes on the under side of the mother's tail by a glue or cement of unknown composition, which is excreted simultaneously with the spawn. The eggs remain attached to the swimmerettes and gradually develop for ten to eleven months, at the end of which time the eggs hatch gradually. The hatching period usually extends over a week.

On hatching, the larva or small lobster neither looks nor behaves like an adult. The bay lobster is only about one-third of an inch long and swims freely in the water. It has no big claws and the eyes are relatively very large. During the daytime, the free swimming young lobsters are at the surface of the water and are carried about by the wind and tide. This period of life however only lasts from two to three weeks, under usual conditions, after which time the baby lobsters take up their abode on the bottom. The larval period of a lobster's life, however, is beset by many dangers, mainly from other sea creatures. It has been estimated that only one baby lobster in 5,000 or 10,000 survives to take up life on the sea bottom.

During the first two weeks of their existence the baby lobsters usually moult three times, though this too is dependent on water temperatures. Each moult brings a change in the appearance of the young lobster. The life of the American lobster is made up of a series of stages, each of which represents time passed between successive castings of the shell. The first four periods present most rapid growth and pronounced change and are passed rapidly. After the sixth or seventh moult except for increase in size, there is little apparent change in the appearance of the lobster.

The sea bottom is the natural home of the adult lobster, source of its food, and scene of its activities. The adult lobster never forsakes the water nor leaves the bottom of its own accord. In search for food it wanders both close to the shore and out to the depths of over 100 fathoms. The lobster travels nimbly over the bottom on the tips of its slender legs but when transferred to land due to the weight of the body, can only crawl at a low rate of speed.

Lobsters do not migrate at definite periods up and down the coast but do move in-shore and off-shore according to seasons. In the late spring, summer, and fall, when the water is warm, lobsters are caught close to the shore; while in the winter and early spring when the water is colder they retire to deeper waters.

Normally adult lobsters are dark green in colour. The hard shell is opaque. "Why," many people will say, "any lobster I ever saw was red." That may true too! But the lobster turns red only when boiled.

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DEPARTMENT OF
TRADE AND COMMERCE



A FACT A DAY ABOUT CANADA

FROM THE

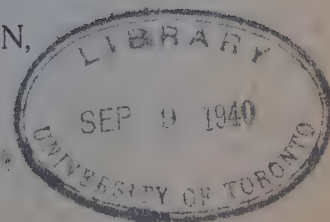
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JULY 1940

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James Muir,

Editor.

from the

Dominion Bureau of Statistics

No. 275 -- Mon. July 1, 1940 -- Dominion Day

Canada as a Dominion is 73 years old today. Her swaddling clothes have been shed a long time. She is a full fledged nation of the British Commonwealth, her sword unsheathed to battle alongside her democratic Allies in the crusade to preserve human liberty. There are other British dominions -- Australia, New Zealand and South Africa.

How Canada came to be called a dominion is worth remembering. When the delegates from Canada, New Brunswick and Nova Scotia were discussing in London in December, 1866, the details of the British North America Act, there were differences of opinion as to the proper term to be used to describe the new federation. Sir John A. Macdonald, who was the leader of the Canadian delegation, wanted it to be called the Kingdom of Canada, but Lord Derby, the British foreign minister, thought that might wound the susceptibilities of the people of the United States Republic. All the Canadians firmly rejected the name Colony.

That night, Sir Leonard Tilley, the famous New Brunswick statesman, who was accustomed to read a chapter of the Bible each evening before retiring to rest, stumbled on the verse of the 72nd Psalm which reads: "He shall have dominion from sea to sea and from the river to the ends of the earth."

Next morning he suggested that the new federation should be called the Dominion of Canada, and this was adopted. The arms of Canada now bear, in allusion to the story, the legend: "A mari usque ad mare," which translated runs "From Sea to Sea."

At the time of Confederation the population of Canada was 3,463,000. The population, 73 years later, is now estimated at about 11,400,000. In that period of time the population has more than trebled. All the provinces, except Prince Edward Island, have shown an increase.

No. 276 -- Tues. July 2, 1940 -- Rubber Tires on the Farm

Here are some valuable notes on rubber tires which will be found very helpful not only to the farmers but to all persons whose business necessitates the constant use of these tires. Extensive tests of rubber tired equipment by the Government service show that weight and air pressure are two most important factors, in securing best results with rubber.

It has been definitely proven that the greater the weight the lower the slippage on traction wheels at any given air pressure. The use of non-freezing liquid ballast in traction tires increases their draft ability in direct proportion to the weight used. This type of ballast or wheel weight is more effective than attached weights because of the reduction of bounce over rough ground and the fact that all pressure is exerted where the tire can best use it.

By increasing the weight on traction tires, a higher effective air pressure may be used with better tire life and satisfactory load pulling ability. Pressure of 12 and 13 pounds with weights are more satisfactory than 10 pounds air pressure without weights. Tractor front tires should be kept inflated to 30 to 35 pounds for best steering results. Tires on non-driving wheels do not require liquid ballast except where extra weight is necessary to the special design.

Implement tires should always carry the full air pressure recommended by the implement and tire manufacturer. Lower air pressure in implement tires increases the power required to pull them and greatly reduces their life. Keep all rubber tires high and dry when not in use, remove the weight by blocking if possible, and store them in a dry and dark place over winter.

Canada in 1938 manufactured 2,392,337 pneumatic tire casings and 2,155,412 inner tubes along with 456,731 pounds of solid tires.

No. 277 --- Wed. July 3, 1940 --- Recent Advances in Food Industries

Scientific progress in the food industries has been general although a great deal of interest and development has centered in the dairy industry in particular.

Processing methods have undergone many changes - Ottawa was the first City on this continent (1928) to introduce homogenised milk, which has now gained a very important position in daily life.

More recently a new method of pasteurization -- short time high temperature -- has been successful in destroying all pathogenic organisms in 15 seconds at a temperature of 160°F; this system is now recognized in certain states of the U.S.A. as an alternative method to that presently official of using a holding period of thirty minutes at a temperature of 145°F. On July 1, 1939, the American Public Health Association adopted a new method and published this as a standard for bacterial enumeration in all dairy products. This method has been officially used since that time in the various health centres of Canada. The general effect has been to greatly improve the efficiency of pasteurization by virtue of eliminating thermoduric types of bacteria in raw milk supplies.

The production of Ice Cream, Condensed Milk, Chocolate Drink and Homogenised Milk have been improved through the principles of physical chemistry. In the first two instances, the addition of cane sugar to a mixture containing lactose involves proper adjustment of ingredients to prevent sandiness; in chocolate drink the proper colloidizing of fat and cocoa particles and in homogenization the optimum subdivision of fat particles and avoidance of sedimentary deposits -- leucocytes, etc.

The baking industry is now using larger quantities of milk powders due to promotional research in not only improving the loaf texture, crumb, and general appearance but also the yield.

Fur bearing animals are also consumers of milk powder greatly to the advantage of the rancher. Recent research in ribo-flavin determination and function has proved the value of milk powder in poultry raising -- improved fertility and hatchability.

Milk powder for use in canned soups must be comparatively free from thermophilic bacteria to which have been attributed "flat sours"; similarly, also it must be non-curdling by test of each lot.

No. 278 -- Thurs. July 4, 1940 -- More about Food Industries

Low temperature refrigeration is now undergoing a revolutionary change, thorough elimination of overhead and side wall piping in favor of a fin coil bunker, flooded with liquid ammonia and activated with electrically driven fans. The advantage is simplifying defrosting and attainment of very low temperatures with much less load on compression machinery; also less cost of installation. This system is now being used in sharp freezing of fruits, ice cream, vegetables and fish. Such a method contributes to quality in preserving the freshness of the food so frozen.

Human milk is now being preserved by freezing almost instantaneously in small pellets (0.2 oz.) and stored at low temperature in a modified ice cream cabinet and thus continually available for emergencies. This system has been established since 1936 at the Royal Victoria Maternity Hospital, Montreal. Bacteriological tests have proved an excellent state of preservation of specimens after two years storage by this system.

Roll-less Butter Churns -- a recent development of equipment manufacturers is a revolutionary design which effects a saving in power, produces a more uniform butter quality and reduces churning time with due regard to temperature considerations.

Packages are more than ever exerting a direct influence in foods distribution owing to the consumer acceptance of specialty packages -- pickles now appearing in transparent sealed bags encased in a protective window carton; ice cream in a cylindrical package with a piece of string for easy opening.

No. 279 -- Fri. July 5, 1940 -- Family Living Expenditures

A recent survey of urban wage-earner family living costs made by the Dominion Bureau of Statistics shows that many factors affect expenditures for living needs. The amount of family income is generally considered the dominant influence, but income in turn is related to the age of the principal breadwinner, and the numbers and ages of children also affect the character of family living expenditures. Despite this, there appeared to be no general tendency in urban wage-earner families of British origin for the number of children to increase in the higher family income groups, although in French families the average number of children was larger at higher income levels. In both racial origin groups, amounts spent per person declined as the number of children in the family increased. Average expenditures per person dropped from \$516 in British families with one child to \$212 in households with five children. Corresponding averages for French families were \$397 and \$219. All budget groups contributed to this decline, with food outlay per person falling from \$127 to \$74 for British families and from \$109 to \$75 for French families with one and five or more children respectively.

A different picture was obtained when expenditure records were classified according to the age of the father to examine relations between expenditures and

the lengthening life of the family. The number of children per family tended to increase until the father's age was somewhere between 45 and 54, and amounts spent per person on food and clothing increased slightly as the age of the father moved upward into that range. This was associated with a more rapid rise in income than in numbers of children at progressive age levels of the father. Among the British families in the survey, income rose from an average of \$1,319 in cases where the father's age was between 25 and 34 to \$1,541 where ages ranged from 45 to 54 years. In the next ten-year age period, average family income dropped back to \$1,451, and average numbers of children per family decreased from 2.5 to 2.3. Total expenditures per person declined slightly from \$378 in families where father's ages were between 25 and 34 to \$358 for families with fathers between 55 and 64 years of age.

Analyses of records for living expenditure tendencies related to numbers of children and the length of time the family had been formed, did not reveal the existence of a "typical" family. Families with one child under 13 years, or with two children from 4 to 12 years apparently possess some claim to this title, but contrary to popular opinion, families with three children form a definite minority. The tendency already noted, for income to increase as the family life span lengthened was apparent in family groups with the same number of children. The earnings of older children were partly responsible for this increase. For families with the same number of children, expenditures on food and clothing mounted as the family life span extended but not by the full amount of the income increase. Housing and household furnishing expenditures actually declined as the number of children increased. Most other budgetary outlays showed very little relation either to rising income or the lengthening family life span. Apparently a wide diversity in consumer tastes exists, which is scattered fairly evenly among "non-necessity" expenditures such as recreation, transportation, and savings.

No. 280 -- Sat. July 6, 1940 -- Wood Using Industries

The wood and paper group of products in Canada comes second in importance to agricultural and vegetable products in respect to gross value of production and third to non-ferrous metals and their products in respect to total value of exports. The annual increases in the last three years in the value of production and exportation of these products are shown in the following figures:--

	<u>Production</u>	<u>Exportation</u>
1933.....	\$342,155,077	\$131,359,211
1934.....	404,435,948	161,136,624
1935.....	441,160,387	175,870,831
1936.....	497,103,666	210,206,707

Wood and paper products in 1936 formed 16.5 per cent of the total value of manufactured products in Canada and 20.7 per cent of the total value of exports of all kinds of Canadian produce.

The primary step in production in the wood and paper group consists of operations in the woods. These operations produce certain commodities such as ties and poles which are used as such without further manufacture but the greater part is separated at this stage and goes either toward the ultimate production of finished commodities made of wood or toward those made of paper.

The pulpwood forms the raw material of the pulp and paper industry which in turn provides raw material for the paper-using industries. The logs and bolts pass into the sawmills and mills producing lath, shingles, staves, hoops, heading and veneer. In these mills it undergoes its second step in production which is covered by an annual report on the lumber industry. The rough lumber, lath, shingles, cooperage stock, veneer and other products of this group of mills are either used in rough construction or for building purposes in the form in which they leave the sawmill or are sold or transferred to the next group of industries where they are used as the raw material in the manufacture of sashes, doors, furniture, boxes, barrels, etc. These industries which might be considered as representing the third step in production of forest products are covered in the present report and are classed as wood-using industries. The class also includes certain mills which do not depend on the sawmill for their raw material but purchase it in the form of logs and bolts and carry out the second stage of its preparation themselves. In other mills such as those manufacturing excelsior there is no second stage comparable with the work done by sawmills but the finished product which is manufactured direct from the logs or bolts is considered to be of the same status as the other products of the wood-using group.

This wood-using group does not include every industry into which wood enters as a raw material but only those producing commodities whose chief component is wood. There are a number of industrial groups in which wood is an important raw material such as the manufacture of agricultural implements, musical instruments, etc., and others such as the manufacture of machinery in which wood is necessary but only in comparatively small proportions. There are also many cases where wood is used indirectly in the manufacture of all-metal products as for example in the use of wooden patterns and wooden foundry boxes in making metal castings. Wood in the form of barrels, boxes and other containers also enters into the distribution of commodities of all kinds.

Even if the almost universal use of paper made of wood is disregarded it is difficult to find any form of industrial activity in which wood is not used directly or indirectly.

No. 281 -- Sun. July 7, 1940 -- Development of Wood Industries

During early pioneering times in Canada the wood-using industries were represented by the labour of individual wood-workers. It consisted chiefly of house and building construction and the manufacture by hand of furniture, vehicles, cooperage, etc., carried on in farm buildings or small workshops. Only in the case of shipbuilding was there anything approaching the modern factory system where workers of the same trade are concentrated in large establishments.

The first shipbuilding in Canada was done by Pont-Gravé who built two vessels at Port Royal in 1606 when he believed himself to have been deserted by DeMonts. It was Talon however who gave shipbuilding in the Colony the status of an industry and in 1665 before he left New France 350 men out of a total population of less than 7,000 were engaged in constructing wooden vessels.

Under British rule the industry developed rapidly as the Canadian forests not only provided the material for the ships themselves but also the cargoes of timber that made shipbuilding profitable.

The building of wooden ships reached its maximum development about 1865. In 1852 Quebec alone had 25 shipyards and eight floating docks giving employment to five thousand workers.

With the advent of iron and steel hulls and the use of steam the building of wooden ships declined until it is at present largely confined to the construction of small coasting vessels, bank schooners, river and lake craft and pleasure boats. It is interesting to note that the Royal William, the first ship to cross the Atlantic propelled by steam alone was built of wood in a Canadian shipyard at Quebec in 1831.

During the early part of last century the manufacture of sashes and doors and the planing and other preparation of lumber for building purposes was done largely by hand during the construction of the building in which it was to be used. The carrying on of this preliminary work in factories was almost unknown. The carriage shop and the cooperage were among the first forms of wood-using industry carried on in separate establishments.

With the advent of wood-working machinery and the substitution of power for hand labour the factory system developed rapidly among these industries as wood was the cheapest and best material available for manufacturing purposes. The earliest Census of Upper and Lower Canada in which wood-using industries are mentioned was that of 1851: Flour mills, sawmills, distilleries, tanneries, foundries and breweries are dealt with to some length but mention is made of the existence only of 45 carriage and wagon factories, 37 sash and door factories and planing mills, 36 furniture factories and a few other factories producing pails, pumps, lasts and shoe pegs.

In the 1860 Census of the two Canadas there were 341 establishments classed as wood-using industries reporting a production of over a million dollars. Carriages and wagons again headed the list, with furniture second, and cooperage third.

No. 282 -- Mon. July 8, 1940 -- Recent Development of Wood Industries

In 1871 and subsequent Census years covering Canada as a Dominion the wood-using industries take a more prominent place and are dealt with in considerable detail. The manufacture of horse-drawn vehicles continued to head the lists until about 1890 when the sash and door factories and planing mills moved up to first place where they remained until 1929. While the manufacture of vehicles continued to increase for many years in volume of production it decreased in importance in relation to other wood-using industries. The manufacture of automobiles was started in Canada between 1905 and 1910 and automobiles were first mentioned in the Census of 1911. With the rapid development of this form of land transportation there was a reduction in the relative importance of carriage and wagon building. In 1911 the value of automobiles made in Canada was only a little over \$6 million while that of carriages and wagons was over \$11 million. In 1915, carriage production had increased to over \$7 million but automobile production reached more than \$24 million and has since increased its lead to a still greater extent. The carriage, sleigh and vehicle supply industry was twelfth among Canadian wood-using industries in 1936 with a production valued at \$815,293. However, there is still a certain demand for horse-drawn vehicles

in city delivery, logging, agriculture and construction work, and the manufacture of commercial bodies and boxes of trucks and automobiles is now being carried on by many manufacturers engaged previously in the manufacture of carriages and wagons.

The standardization of sizes and styles of doors, sashes and other preliminary factory work in connection with building construction, the development of machinery for mass production of these commodities and the activity of building in Canada up to 1929 resulted in enormous increases in the products of the sash and door industry. At the present time little or no fine carpentry or joinery is done "on the job" in building construction. It is now possible to secure from the mill practically all the wooden material used in building construction, cut to size, fitted and ready to be assembled. The greater height to which buildings can be constructed by the substitution of steel, cement and stone work for wood in the frames and outer walls, has had a tendency to increase the demand for wooden sashes, doors, flooring and the interior trim which are still used in this type of building.

The manufacture of furniture which was developed in the hardwood regions of southern Ontario and Quebec has spread to other parts of Canada but is still more or less centred in the southwestern peninsula of Ontario. The native supply of the more valuable furniture woods such as white oak, cherry and black walnut has been almost exhausted commercially but the reputation of Canadian-made furniture which was built up during the years of abundant local supply has persisted although much of the raw material for the industry to-day is imported from the United-States and tropical countries. Other Canadian hardwoods such as birch, maple and red oak are being used to a greater extent as their qualities are becoming better known. This industry has headed the list for gross value of production since 1930.

With a few minor exceptions the gross value of production in every one of the seventeen groups of wood-using industries has increased annually since 1933 when the last complete combined report was issued. Nevertheless, in most cases production as late as in 1936 was still considerably less than in 1929.

No. 283 -- Tues. July 9, 1940 -- Wood as a raw Material

During the early industrial development of Canada wood was used as a raw material for many purposes, not because of any particular quality or characteristic of the wood itself but merely because it was cheap and abundant. With the development of the use of metal and other materials in industry a certain amount of substitution has been inevitable and the use of wood has gradually been confined to those purposes to which it is particularly adapted. It has been found that for many purposes there is at present no satisfactory substitute for wood and that in some cases only a certain kind of wood will fill the requirements. In the building of horse-drawn vehicles as many as 30 different kinds of wood were used, each being selected for that part of the vehicle where full advantage could be taken of its peculiar qualities. The durability and the resistance to decay of the wood of certain trees under certain conditions of use was appreciated by even the earlier manufacturers. Later on, the physical and chemical qualities of the different woods in use were made the subject of scientific research and to-day manufacturers can secure accurate information concerning the suitability for any purpose of any of the kinds of wood on the market from such Government institutions as the Forest Products Laboratories of the Dominion Forest Service.

The increasing scarcity of wood and the possibility of using other materials in its place has led to considerable substitution but in many cases this is purely a matter of economy, wood being still used in the better classes of the products involved. There are many cases where no satisfactory substitute has ever been found for wood such as in the manufacture of high-class furniture, sporting goods, tool handles, small pleasure craft, certain classes of interior house decoration, etc. Even where the substitution has been extensive it has sometimes resulted in an increase in the general consumption of wood as a raw material.

The substitution of steel, concrete, brick and stone for wood in the framework and outer walls of buildings has resulted in more building construction and taller individual buildings. This has increased the demand for the sashes, doors, flooring, and the interior trim which is still used in buildings of this type and also the demand for lumber for concrete forms, templates and scaffolding used in their erection. There is to-day more wood used in building construction than was used when buildings were made almost entirely of wood.

Similarly with shipbuilding. The use of steel in place of wood in the hulls and other parts of a modern vessel has made it possible to build more and larger ships and more wood is used annually in the interior fitting of steel vessels to-day than was used in building wooden ships in the past. The manufacturers of automobiles in America to-day use more wood as a secondary material or in an indirect way than was used by the manufacturers of horse-drawn vehicles when these were the prevalent means of land transportation.

Owing to increased scarcity there has been an increase in economy in the use of wood by Canadian industry. Investigation showed that many manufacturers were discarding or using as fuel waste material which was suitable for the manufacture of other products or by-products. Waste in the process of manufacture has also been reduced.

No. 284 -- Wed. July 10, 1940 -- Depletion of our Forests

An attempt has been made to estimate the extent to which our forests are being depleted annually in the process of exploiting this material. For this purpose converting factors based on actual measurements have been used. Each of these factors represents in cubic feet the quantity of standing timber that must be cut in the forest in order to produce one unit of the material in question, based on the total cubic contents of the tree. By the use of these factors it has been estimated that the consumption of standing timber for use alone aggregated 2,702,766,000 cubic feet in 1936. Of this total about 91.3 per cent was retained in the country for immediate use or as raw material for Canadian industry and 8.7 per cent was exported in an unmanufactured or partly manufactured form. The logs and bolts were converted into almost four billion feet board measure of sawn lumber and into other sawmill products. Of the sawn lumber, about half was exported but a large part was planed or matched after leaving the sawmill and considerable value added to it in this way before being exported. The remaining lumber sawn was used in the rough for structural work in Canada or went into the Canadian wood-using industries.

During the last ten years fire has destroyed annually about 267,000,000 cubic feet of merchantable timber. The destruction occasioned by insects, fungi, wind-fall and other destructive agencies has been estimated at 700,000,000 cubic feet

per annum. It may be safely estimated that the forests of Canada were depleted in 1936 by more than 3,550,000,000 cubic feet.

However, a total depletion of 3,550,000,000 cubic feet in one year does not necessarily imply that our total resources of 273,656,000,000 cubic feet will be reduced by that amount every year and that the supply will therefore be exhausted in 77 years. Estimating the probable duration of our supply of forest products is not a matter of simple arithmetic. The rate of utilization depends to a large extent on industrial activity not only in Canada but in those countries to which Canadian forest products are usually exported and is far from constant. It tends to increase in the demand for forest products from other countries whose supplies have been reduced to a greater extent than our own. The rate of destruction from fires and other agencies is also very uncertain but tends to increase with the increase of population and the extension of settlement unless measures are taken to counteract this tendency.

On the other hand there is a steady increase in volume taking place in all healthy stands of timber due to annual growth. By the application of scientific forest management this annual growth can be stimulated and could be made to take place over our entire area of potential forest land. If all the land in Canada which is better suited for the growing of timber than for any other purpose were under intensive forest management on a sustained yield basis it would furnish enough timber and forest products annually in perpetuity to supply wood-using industries catering to the needs of a much larger population than we have at present with a sufficient surplus for profitable exportation.

There is reason to believe that in time the loss due to forest fires will be practically eliminated once the general public can be made to realize the necessity of precaution, as ninety per cent of forest fires are due to human carelessness. Scientific methods of controlling insect and fungus damage are being rapidly developed and in time the depletion will consist almost entirely of material cut for use.

No. 285 -- Thurs. July 11, 1940 -- Setting Hay Stacks

The average man, and quite possibly the average farmer, has not paid particular attention to the fact that dollars and cents are wrapped up in the direction in which hay stacks are set. In this year of war when every item counts in the pursuance of victory it is important to know something very definite about this seemingly -- to the amateur -- small matter.

An expert in the Department of Agriculture used to follow the rather common practice of building his haystacks east and west (or sometimes west by southwest and east by northeast) on account of wind. The west end would be built up first and would serve as a buffer for the handling of the remaining hay till it became time to top out. In winter the east end would usually be hauled first and again the worker would be sheltered from the prevailing winds. Providing the top be held snug with poles or hangers a stack built with its end to the wind is less likely to tip or to lose its head than a stack built broadside to the wind.

There is, however, a disadvantage in the east-west direction. During periods of prolonged wet weather the north side has scant chance to dry out and some waste of hay may result.

The Department of Agriculture's expert, therefore, has changed his practice and now builds his haystacks north and south so that the sun shines on both sides. When such a stack is built on a false bottom of crossed poles and the hearth is kept full from ground to top the stack will endure a great deal of bad weather without serious spoilage and if enough pairs of wire hangers are used to hold the top down, little trouble from uncapping by wind should be experienced in most climates.

The hay and clover crop of Canada last year was about 13,377,000 tons. What it will be this year is awaited with some concern by the interested parties.

No. 286 --- Fri. July 12, 1940 --- Whaling Resumed

Resumption of whaling operations on the Pacific coast after a year's lay off will put Canada back into the whaling picture this year. Market conditions, which made satisfactory returns unlikely, caused a curtailment of whaling in 1939 and Canadian operations which centre off Queen Charlotte Islands on the British Columbia coast were suspended.

Now with the world stocks of oil, bone meal, and other whale products reduced, and with war conditions increasing a demand for reduction products, the outlook for the industry is more favourable.

Some half dozen kinds of whales are taken off the British Columbia coast, ranging in size all the way up to the big 80 foot female sulphur whale which headed the size list in the catch of 1938. Canada's whaling catch of that year numbered 310 and they yielded oil, bone meal, and fertilizer having a marketed value of some \$184,000. Oil is the chief product of the whaling industry and the 1938 production, 543,000 gallons, was worth more than \$162,000. Under normal conditions most of Canada's whale oil production is exported to the United Kingdom and the United States.

Sperm and Finback whales are the most plentiful in the British Columbia catches, with Sulphurs and Humpbacks following in order. Sulphur whales are the largest of the species taken in Canadian whaling. Sei and Bottlenose whales, taken occasionally, are the other two species found in Canadian whaling waters. In the 1938 catch only four varieties were taken -- 252 Sperm, 50 Finbacks, 4 Sulphurs and 4 Humpbacks.

No. 287 --- Sat. July 13, 1940 --- Eskimos of Canada

The Eskimos of Canada are found principally on the northern and Hudson Bay coasts of the mainland and on islands in the Arctic archipelago and in Hudson bay, although in the Baker Lake-Chesterfield Inlet area on the west side of Hudson bay there are bands of Eskimos who are essentially an inland people, and who subsist chiefly on caribou. The diet of the coast Eskimos is largely marine mammals and fish, varied at times by caribou obtained from the interior during the seasonal migrations of these animals. The skins of the caribou are used for winter clothing.

The wandering life of the Eskimos and the vast area over which they are scattered present great difficulties in ascertaining their exact numbers. The total for the entire Dominion, according to the latest returns, is about 6,000 located mainly in the Northwest Territories, with approximately 1,590 in Quebec, 85 in Yukon Territory, 62 in Manitoba, and 3 in Alberta.

The administrative care of Eskimos outside of the organized provinces devolves upon the Department of Mines and Resources which, by regulative measures (including the setting aside of game preserves where only natives may hunt and the establishment of a reindeer herd), conserves the natural resources necessary to their subsistence. Contact with the Eskimos is maintained through permanent stations (at a number of which medical officers are located), in the Eastern, Central, and Western Arctic, by patrols of the Royal Canadian Mounted Police, and by means of the annual Canadian Eastern Arctic Patrol by steamship.

No. 288 -- Sun. July 14, 1940 -- Crystals in Canned Fish

If some day on opening a can of lobster, salmon, chicken haddies, shrimp, or crab, you note a number of white crystals, do not be alarmed. These shiny white particles are not glass or any other dangerous substance but in all probability are crystals of magnesium ammonium phosphate. Under certain circumstances, according to the scientists of the Fisheries Research Board of Canada, these crystals occasionally form from the natural ingredients of fish flesh. Seasonal and local variations in the chemical composition of the fish flesh, variations in cooking the fish before they are packed in the cans, variations in processing the cans in the retorts and cooling conditions, and variations in storage temperature all are possible factors which may contribute to the development of such crystals. All the conditions under which they may be formed have not yet been investigated. But it has been definitely established that the crystals are harmless. In fact the chemical substances of which the crystals are formed are necessary in one form or another for normal health.

In order to allay any fear which a consumer may have on encountering such crystals and to make a test of the same, it is suggested that one of the crystals about the size of a pin head be placed in a teaspoon of vinegar or lemon juice and the liquid heated gently. If the crystals dissolve you may then be reasonably certain they are magnesium ammonium phosphate. In appearance the crystals are colourless, transparent, hard, and the edges are somewhat sharp. When placed in the mouth they dissolve so slowly they are tasteless. Sometimes they are so small that they merely impart grittiness to surface of the canned fish.

Fisheries scientists are continuing their study as to possible causes of the crystal development with a view toward ultimately eliminating them from the fish packs.

The marketed value of canned fish produced in Canada in 1939 was \$15,449,000.

No. 289 -- Mon. July 15, 1940 -- Fragile! Handle With Care!

People in glass houses can throw stones! This is the 1940 version of the ancient proverb, now rendered obsolete by the product of a rapidly growing industry that is being carried on right here in our own Dominion.

In 1905, safety-glass was discovered quite accidentally by a French scientist who let slip a flask containing a thin flim of plastic. To his amazement, the vessel did not fly into a million bits, but each fragment adhered to the gummy plastic and, although shattered, the flask retained its shape.

From that time on scientists the world over concentrated their efforts on extending the developpment of this newly found product. Safety-glass consisted of two sheets of ordinary glass, bound together by a layer of transparent plastic, forming what is called a "sandwich". Although great improvements have been made in the plastics, the structure of safety-glass today remains essentially the same, the principle being that when shattered, the fragments of glass cling to the interlayer of plastic instead of flying around.

The plastics used in the early production of safety-glass were cellulose acetate. Finally the plastic resin called Butacite was discovered, and much of its development was due to the efforts expended by a well known Chemical Company in Eastern Canada. Safety-glass was thus rendered resistant to temperature changes, discoloration, and most important of all, toughened to the extent that deliberate collisions and fierce blows failed to pierce it.

How is this wonder-glass made? Well, it is a simple process, that gives little indication of the years of patient research and experimentation that have led to its development.

The plastic is first rid of all moisture and then cut into sizes desired. In chambers where the temperature and humidity are carefully controlled, the "sandwiches" are prepared and placed on rollers. All interlaying air is exhausted and the three parts are firmly knit to together. Great batches of these sandwiches are bound and placed in an oil bath of increasing heat. The temperature is brought to 250 degrees F. and 190 lb. pressure to the square inch is brought to bear upon every side of the glass until each layer has been compressed to form one perfectly transparent sheet. Finishing processes remove all flaws and blemishes, and the safety-glass is ready for market.

Cinderella will have nothing on the girl of tomorrow. Not only will the future young Miss be stepping forth in glass slippers, but in a gown woven entirely from glass yarns, stockings fashioned from durable, run-proof glass threads and, who's to say, she may even be sporting an all-glasschapeau.

No. 290 -- Tues. July 16, 1940 -- The Changing Population

Every ten years the population of Canada is numbered and 1941 will see another census taken. A glance at the figures for 1931 show that the people living in our Dominion at that time numbered 10,577,000. Of this sum the Province of Ontario had the largest percentage registering approximately 3,432,000. Quebec was second with 2,874,000, the other Provinces following in order:

Saskatchewan, Alberta, Manitoba, British Columbia, Nova Scotia, New Brunswick, Prince Edward Island, the North West Territories and lastly the Yukon.

Since the beginning of the century the proportion of Anglo-Saxons and French has dropped while the percentage of foreign European has shown a consistent and drastic increase. The prairie provinces have the largest percentage of foreigners and Prince Edward Island has the smallest. However, in the four western provinces as a whole, the number of foreign-born has declined steadily since the first of the century while in the East it has increased.

It is interesting to note that of the total population of Canada, at the time of the last census approximately 5,232,000 were between the ages of one and 25 years. Moreover, a larger percentage of this number is of foreign origin, meaning that the section of the population of British extraction is not increasing as rapidly as the foreign. This condition may be attributed in part to the lower age of marriage customary among foreign peoples, than among the Anglo-Saxons, and the tendency, on the part of the former, to raise larger families.

The Summary of the 1931 Census Monograph reads in part as follows: "In the absence of the customary volume of immigration from the British Isles during the last decade (1921-31) the French increased almost twice as rapidly as the Anglo-Saxon races; with the resumption of moderate immigration from Continental Europe and continuing higher birth rates among earlier immigrants, foreign European stocks increased nearly four and a half times more rapidly than the British. Even without further immigration or emigration the differential fertility alone, if continuing on anything like the present scale, promises to effect quite as radical changes in the racial composition of the future Canadian population as have occurred in the past."

With the new census coming up, it will be interesting to note the changes, if any, in the nativity of the population and the degree to which the writer of the above quotation has proved a prophet.

No. 291 -- Wed. July 17, 1940 -- Yukon Gold

To those of us who have read "The Trail of Ninety-Eight" by Robert W. Service, Yukon gold has an appeal which probably no other mining country has ever enjoyed. The sheer romance of it caught the imagination, and there was so much more detail than perhaps even Bret Harte inscribed, great though his works were. Yet the Yukon is not in it with Ontario in gold production. Here is a cold figure story of last year's mining operations in the far north-west of Canada, but the names give a thrill:

Placer gold production in Yukon amounted to 108,078 ounces during the fiscal year ended March 31, 1940, an increase of 17,483 ounces over the preceding fiscal year. The total number of placer claims in good standing was 2,644 of which 2,502 were in the Dawson district, 103 in the Mayo district, and 39 in the Whitehorse district. After almost a half century of continuous operation the famous placer fields of the Klondike still have gold-bearing gravel reserves of a magnitude that assures many more years of successful operation.

The high price of gold in recent years has resulted in increased attention being given to Yukon, and the placer operators are working over the old Klondike diggings and the lower grade ground which was neglected in the days of '98. The old pan, rocker, and sluicing methods have been largely succeeded by huge dredges, most of which are operated by electricity developed from the water-powers of the area. During the fiscal year eleven dredges operated and these handled more than 10,000,000 cubic yards of gravel.

Prospecting for placer gold was on the increase, and extensive stripping and thawing operations, preliminary to large-scale dredging, were carried out on a number of claims. Individual mining operations, conducted chiefly during the summer season, were confined to the old placer creeks in the Dawson and Sixtymile area, Haggard and Righet Creeks in the Mayo area, Bullion and Burwash Creeks in the Kluene Lake area, and Livingstone Creek district.

In addition to the placer gold output of Yukon, 1,147 ounces of lode gold were produced from the Laforma mine in the Freegold Mountain area in the Carmacks district.

No. 292 --- Thurs. July 18, 1940 --- Hail in the Wheat Belt

When a big, tattle-tale gray cloud, tinged with yellow, rolls up from the horizon, and the air is ominously still; when the sun, so hot a few hours before, suddenly loses its brightness and slinks away; when the very flies hover in dozens round the door, then the prairie farmer knows the hour of trial has come. Within the space of a few minutes his very outlook on life can be entirely altered to such an extent that it approaches the unbelievable.

What is this stupendous "something" than can raise a man's hopes and aspirations to the skies, or dash them to the earth in a sodden mass?

Hail!

The encyclopedia defines it as small masses of ice or frozen rain, varying in form from angular, pyramidal and stellated; the formation of which is believed to be dependent upon the presence of a whirl wind phenomena in the upper atmosphere. It is perhaps better that we do not go into the farmer's definition of it in any detail. Suffice to say, it is brief, pithy and to the point.

Grasshoppers, gophers and weeds are obstacles that can be overcome with time and effort, drought, while the effects are tragic, is none the less, a slow process and the realization of crop failure grows day by day with the inevitable rising and setting of the burning sun. But hail! Hail is heartbreaking.

To hear the deafening roar of fragments of ice pounding on the roof, to see the fields, and gardens taking a merciless beating, and above all, to realize that all the hard work, the hopes and sacrifices that went into that crop of wheat for nothing, is enough to dampen the spirit of the best of men. Windows are broken, gardens smashed and waving fields of grain become as stubble. Even if the storm is short lived and the stones small, the damage may be extensive.

Although no actual physical protection against hail damage has been devised, municipal hail insurance associations operate in the Prairie Provinces. By insuring with these associations the farmers are able to protect themselves against hail loss. Each year thousands of claims are received and inspectors are sent out to survey the damage. The benefits received by the farmer depend upon the damage sustained. The inspectors send in their reports to the head office stating the percentage damage to the crop, and cheques are sent to farmers in compensation.

Some districts, of course, are more susceptible to severe hail storms than others, and not a few have been "completely hailed-out" for as many as six and seven years in succession.

However, the farmer keeps a stiff upper lip, says that "this is a good next year country", and struggles and saves in order to sow another crop of wheat the next year. In the end his efforts are justified, and we see again that patience is indeed a virtue.

No. 293 -- Fri. July 19, 1940 -- Industries for Canada

Mr. R. A. Butler, the British Under-Secretary for Foreign Affairs, in a recent broadcast, put his finger upon the new Empire policy exactly as we see it in Canada. Speaking of lessons of the war he said: "We may well learn to link up our future even more with the world than we do now. We may, with their (the Empire's) co-operation and encouragement learn to spread our more vital sea and air bases, our industries more widely over the British Commonwealth and British Colonial system."

The Hon. James Angus MacKinnon, Canadian Minister of Trade and Commerce, has something worth while to say about industries for Canada. In the beginning in this country, he says, we established our families under colonial policy and guidance. We built securely upon the foundations of British institutions and ideals and at the same time adapted ourselves to North American conditions. We thrived accordingly. We have now reached a stage in our development that demands a bolder outlook.

Until now it may be said, generally speaking, that British investments in Canada, following the early colonial plan, have been in the nature of money, for example through the purchase of Government and transportation securities. This was in contrast with United States investments, which largely took the form of branch plants and factories. Canada has grown beyond the branch factory policy of industrial development. This country requires industries to utilize to the full her native resources, but these should in the main be central establishments with branches and agencies wherever necessary.

But to be more specific, British and foreign investments in Canada amount to nearly \$6,800,000,000. Britain alone has invested in Canada nearly \$2,700,000,000, of which only \$370,000,000 is in branch and subsidiary companies. This compares with a total investment by the United States of nearly \$4,000,000,000, of which nearly \$1,900,000,000 is in branch and subsidiary companies. Thus about 14 per cent of the British investment is in branch and subsidiary companies as compared with nearly 50 per cent for the United States. Nearly 59 per cent of the total British investment is in government and railway securities, four per cent is in

the bonds of corporations other than branch or subsidiary plants, leaving less than 25 per cent in portfolio investments in various enterprises such as utilities, industrials, mines, merchandising, finance, and real estate, etc.

No. 294 -- Sat. July 20, 1940 -- British and United States Investments

It is apparent, continues Mr. MacKinnon, that British investment has taken the form predominantly of "portfolio" rather than "direct" investment, whereas almost one-half of American investments are of the "direct" character.

The following table shows the capital invested in branch and subsidiary companies in Canada in 1937 by classes of industry for British and United States investors:

	<u>Great Britain</u>	<u>United States</u>
Manufacturing.....	\$145,800,000	\$945,600,000
Mining.....	22,800,000	217,200,000
Utility.....	15,300,000	395,100,000
Merchandising.....	41,800,000	130,100,000
Financial.....	139,400,000	140,800,000
Miscellaneous.....	2,100,000	40,100,000
Total.....	367,200,000	1,868,900,000

These figures indicate clearly the relatively minor interest which Great Britain has taken in the direct development of Canadian resources and opportunities. Why this disparity between British and United States interest in direct investments in Canada? The reason is obvious. Distance is the essence of the movement. There are no serious political or geographical obstacles to overcome between the peoples of Canada and the United States. Millions cross the borders from both sides each year. The terminology of commerce and industry is much the same in both nations. Moving pictures, magazines and travel, while not producing identity of culture, have brought about a great measure of common culture. The organization of industry is very similar in both countries. Hence economic infiltration from both sides of the border was only to be expected.

Many direct investments from the United States were inspired by the desire to secure sources of raw materials such as lumber and minerals. Others, such as public utilities, transportation enterprises, merchandising establishments, and financial companies came into Canada to complete or extend services which the parent concern supplied in the United States. A more important group consisting of branch manufacturing concerns came into Canada in order to enable their product to be sold to the Canadian consumer because transportation or import duty costs could be saved, to meet the demand in Canada for Canadian-made or Empire-made products, to be in a position to service the goods sold.

In general the branch plant is established to overcome handicaps arising through customs barriers, consumer prejudices (patriotic) and distance. Oftentimes the tariff is the chief barrier but in many other cases where there has been a large demand for a product, the creation of a foreign-owned branch plant may be in the same category as the creation of one which is domestically owned. There is no doubt that the branch plant movement has enabled many United States parent companies to retain and expand their Canadian market and to benefit from British Empire agreements and policies. Many British concerns have followed the same course.

No. 295 --- Sun. July 21, 1940 --- Canada Important

A glance at Canada in relation to world industry will suffice to make our attitude clear, Mr. MacKinnon points out. This Dominion holds a particularly important place in world economy. Although she has less than one per cent of the world's population, Canada is sixth among the nations in world trade. Indeed she stands in fourth place as an exporter of raw materials and finished commodities.

Canada stands third or fourth among security dealers and first in tourist trade. She ranks high in all the major activities which make up the balance of payments.

On a per capita basis the Canadian figures in all these transactions substantially exceed those of the leading economic powers--- Great Britain, United States, Germany, France, Russia and Japan. In 1939 the Canadian national income per capita was among the largest in the world, although in 1937, in part as a result of the drought, Canada was in sixth or seventh position.

Industrially Canada is ranked eighth in the world, although in regard to population she is only the thirtieth. Canadian railways are the fourth longest in the world, and the volume of shipping from Canadian ports is about the fourth largest.

This is the record of a young Dominion which in three-quarters of a century has grown from a country of less than four million inhabitants to one of eleven million. The industrial development has been on the soundest economic lines, with the result that the Canadian people per capita have a remarkable high purchasing power.

No. 296 --- Mon. July 22, 1940 --- Appeal for British Industries

Concluding his appeal for British industries to establish themselves in Canada Mr. MacKinnon says:

This country, which is fast climbing into leadership in lines of activity other than those in which she has already reached a premier position, has been able to accomplish that amazing progress because of diversified natural resources, and the great agricultural areas at her command. Canada produce large surpluses of many farm products, such as cereals, potatoes, apples, cattle, pork and dairy products. There are the vast forest resources of pine and fir, as well as spruce, poplar and balsam for pulpwood.

There are mineral products in abundance. Coal, iron, silver, copper, nickel, lead, zinc, radium and a great variety of the minerals which modern industry requires for its alloys and other uses are being mined and can be mined in greater abundance to meet world needs. Special mention should be made of our iron ore developments. High bessemer grade ore is now being mined near Atikokan in Ontario, with railway connections. Millions of tons are in sight. There are tremendous deposits of iron ore of commercial grade in North Eastern Quebec and Labrador. On the Pacific Coast we have iron. Newfoundland iron ore is well known to Britishers. Germany got two million tons of it in 1938. Only this summer an important mercury deposit has come into production in British Columbia.

We provide hydro-electric power more cheaply, that is, with the application of less capital and labour, than can be done in most other countries.

Today Canada is the world's largest exporter of non-ferrous metals, wheat and newsprint paper. In fact, Canada supplies about forty per cent of the world's export wheat market, two-thirds of the newsprint in the world export market and forty per cent of the non-ferrous metals.

All this and much more than this is why I say that, with her great sea-going commerce and her important home market, Canada has reached the realization that in the near future this Dominion will become the home or headquarters of more leading industries associated with world trade. Canada is a haven of surpassing attraction for British concerns with world-wide interests because this is the new focal point where West meets East, looking as it does across the wide Pacific to Asia and Australia. Proximity to the friendly United States is of immense advantage.

We like to think that we have combined in British North America the seeds of all that is best in the old world and the new, and we are a friendly people, cast in the traditional moulds of the Englishman and the Scot, the French and the Irish, yet assimilating ourselves in our beloved new country to the somewhat different conditions under which we have to live and go forward.

And so, Mr. MacKinnon ends, we welcome British industries.

No. 297 -- Tues. July 23, 1940 -- Patriotic Italian Canuck

It is strange, is it not, to contemplate Italy at war with Great Britain -- two old friends. There is no need to comment on the following incident.

A naturalized Canadian of Italian birth has submitted to the Minister of Finance a novel plan to further free-will offerings to Canada's war cause.

He is employed in the Canadian National Railway shops at Winnipeg and is voluntarily working for the pay of an Army private. All he earns above this, will go to the Department of Finance as voluntary contribution to war effort.

"For some time past," he writes to the Minister of Finance, "a plan has been formulating in my mind, and realising the grave situation the Allied forces are facing, I feel compelled to hesitate no longer in presenting to you my plan for your kind consideration.

"I will state at the outset that I am a naturalized Canadian of Italian birth.

"I feel, together with several of my fellow workers in the Canadian National shops in Winnipeg that at the present time I am of more value to the country in remaining at work in the shops. However, because I am single and have no one dependent upon me, I feel that it would be taking advantage of the grave situation at hand to continue to work at home in perfect safety, drawing a monthly salary, while others are sacrificing so much, I feel therefore that it is my duty to do as much as I possibly can to support the Government's war effort.

"Therefore my plan is to work on the basis of a private in the Army, turning the balance of my wages every month to the Government of Canada for the duration of the war. I ask nothing in return at the end of the war."

The writer of the letter makes this further suggestion:

"In discussing this proposal with my fellow-workers we have come to the conclusion that, in all probability there are many more throughout Canada who could, and would, be glad to do likewise if the idea were presented to them for consideration. I have wondered whether a campaign to this end might be launched by the Government."

With the letter was forwarded a testimonial from the writer's employer referring to him as a "steady and conscientious worker willing to do anything that is required of him and even exceeding the requirements of a request."

No. 298 --- Wed. July 24, 1940 --- War Prisoners in Canada

Numbers of German prisoners recently arrived in Canada are now safely interned in various camps throughout the country. Broken up into small groups, they are so distributed as to present little danger to Canada.

It was to ensure that they would be beyond the reach of fifth columnists and parachute jumpers that they were removed from England to Canada. Had they been released during an invasion of Great Britain, they might easily have constituted a menace. Scattered across Canada's broad spaces, they are no longer considered to present such threat.

To those who watched beneath the ramparts of Quebec's ancient citadel, the war was brought close to Canada as the heavy clump of Nazi boots sounded on the plank platform of the railway siding and the uniformed airmen, soldiers and sailors were loaded aboard the waiting trains.

Closely ringing the entire pier area were 500 picked sentries, their bayonets fixed. Another set of guards lined the route from the ship to the trains.

First to be brought off ship were the civilian prisoners, many of them crew members of Nazi ships seized by the British Navy on the high seas. Next came the soldiers, sailors and non-commissioned officers of the Nazi air force, army and navy.

The majority of the navy prisoners were submarine crews. Included in the army prisoners were members of the Nazi "panzer" units and parachute jumpers. The latter

wore a distinctive uniform composed of slacks and jumpers made of a leather-like material.

Masks, issued for protection against their own gas while they were prisoners in the British Isles, were taken back from the prisoners when they landed in Canada.

Last to leave ship were the officer prisoners. They were followed by their own batmen, who loaded their trunks and other baggage aboard the trains.

An interesting side-light was the way in which the Nazi prisoners studied the husky and bronzed Canadians who stood guard over them. While waiting in the piers to be marched to the trains, they constantly gazed at the Canucks. The smirking attitude of one party of prisoners rapidly evaporated into one of thoughtfulness when a leather-lunged sergeant-major started to put the Canadians through their paces with smart precision.

Many Iron Crosses dangled from the tunics of the Nazi officers. One German aviator told a Canadian officer he had received his Iron Cross in the morning and had been shot down over England by four Hurricanes on the afternoon of the same day.

"Your aviators were excellent, but short on planes," he said.

No. 299 -- Thurs. July 25, 1940 -- Sleek Canadian Chaser

Without ostentation, in a war setting, one of a fleet of sleek Canadian-built submarine chasers was launched from an Eastern shipyard. While rain fell from dull skies overhead and while a couple of hundred grimy workmen cheered, the trim craft slid along greased runways into the St. Lawrence River. A handfull of company officials, several of the Royal and Royal Canadian Navy's officers and a lone khaki-clad military representative were on hand.

Constructed of Canadian materials by Canadian craftsmen, the war vessel will serve under the ensign of the British Royal Navy soon after she is outfitted.

It was a quiet formality, different from any peacetime launching, where, according to sea tradition, a woman has the honor of naming the vessel. Rear-Admiral H. A. Sheridan, R. N., Admiralty representative on the British Supply Board, cut the white ribbon that sent the champagne bottle smashing against the bow of the ship. She knifed into the waters and he declared: "Normally we have a ceremony when we launch a ship. But on this occasion no name has been given her. I wish Godspeed to this ship and to everyone who sails in her."

Later he explained that contrary to custom a woman had not been asked to participate in the official christening, simply because no name had yet been decided on by the Admiralty in London. The likelihood is, he said, that she will bear the title of a Canadian wild flower, following the style of similar British-made submarine fighters.

Nearby, other chasers, which shortly will be completed for use in the British Navy or the Royal Canadian Navy, lay silent while workers put aside blowtorches and rivetting machines to watch the launching.

No. 300 -- Fri. July 26, 1940 -- Canada is Air Conscious

During the last few years and particularly the last few anxious months, Canadians have become more and more air conscious. Wings are playing an ever increasing part in the progress of the nation, and mankind in general. However, the highpowered, streamlined, mechanical birds of our modern airlines took years to develop, and they represent decades of experimenting, of tragic failures, and small but vital successes.

Man's desire to conquer the air dates back to the early days of Greek mythology, whence we get the story of one air-minded Apollo who fashioned a pair of wings for his friend. The latter, trusting soul that he was, donned the costume and soared heavenward with the ease and grace of a bird. All went well until he got too close to the sun, when the wax joining the wings to his body melted and the poor chap was torpedoed to earth. A sad tale indeed, but it serves to show the antiquity of the idea of flying.

At the outset, the main object was to get off the ground. All attempts at flying were made in balloons, and other lighter-than-air craft, and little or no attention was paid the direction of the flights. Around 1784 a melloon-shaped balloon was fashioned and with a crew of six manning silken oars, succeeded in navigating a slow curve. This was the initial attempt made at controlling the course of the flights, and the experimenters were hailed as heroes by the open-mouthed and sceptical onlookers.

It was not until the late 1800's that any trials were made with heavier-than-air craft. Then, using the bird for a model, gliders were designed. In 1903 the Wright brothers made the first successful flight with their home-made aeroplane. From this point on phenomenal strides were made in the field of aviation. The Great War broke out and the planes were designed essentially for military purposes, but were far more efficient than any constructed up to that time. Up to and during the four trying years of the war, planes were made almost entirely of wood, but special straight grained wood was necessary and the vast demand seriously depleted the supply. As a result, manufacturers began experimenting with metal machines. Aluminum alloy was found to be particularly successful, and today aeroplanes are made almost exclusively of metal.

In the years immediately following the Great War, aviation is said to have passed from its "childhood" into its "adolescence". Planes with the "high" cruising speed of 100 m.p.h. came into use. Many machines were being equipped with two and in some cases three engines. Although noisy and none too comfortable these airplanes were considered to be the last word in efficiency. In 1927 Colonel Lindbergh completed his epoch-making solo-flight across the Atlantic and aviation was truly coming into its own.

Since that time tremendous strides have been made in this field, and there is no reason to doubt that still greater progress will be made as the years roll by.

No. 301 -- Sat. July 27, 1940 -- Air Travel in Canada

The air ports of Canada fascinate us, and it is now a favourite excursion to visit them and see the passengers alight and depart on this swift journey across the broad Dominion. People are beginning to be accustomed to that type of travel

and like it, as witness the statistics for last year.

Air travel in Canada increased by almost one hundred per cent in 1939. The passenger miles flown numbered 26,107,750 miles as against 14,886,718 passenger miles in 1938. Air passengers carried during the year numbered 161,503 as against 139,806 in the preceding year, but the more marked gain in the mileage flown is attributed to the longer flights made possible by the inauguration of passenger service on the Trans-Canada Air Lines in 1939. Canada has long been a pioneer in freighting by air, and the provision of facilities for trans-continental air travel is significant of the advance being made in air passenger traffic.

Freight transportation by civil aircraft during 1939 showed little change, amounting to 21,253,364 pounds compared with 21,704,587 pounds in 1938. Mail carried by air totalled 1,900,347 pounds as against 1,901,711 pounds. Considerable sketching and photographing from aircraft was also carried on during the year. The area sketched in 1939 was 3,420 square miles and the area photographed, 46,344 square miles. The number of forest fires detected and reported was 181 as compared with 368 in 1938.

The principal activity of other commercial aircraft in Canada during the year was the carriage by air of freight, passenger and mail to the more remote parts of the country. The freight consisted largely of machinery and supplies for mines in the northern regions of Quebec, Ontario, the western provinces, and the Northwest Territories. Formerly accessible only by dog team or canoe, many mining areas in the North are now served by aircraft operating on regular schedules. Other activities of commercial airmen included forest fire patrols, timber cruising, air photography, and topographical survey work.

No. 302 -- Sun. July 28, 1940 -- Air Force Recruits

Requirements of the Royal Canadian Air Force for recruits were explained in some detail by Hon. C. G. Power, Minister of National Defence for Air to the House of Commons this week. He pointed out that recruits were divided into two classes, first air crews, those who would actually fly and second, maintenance personnel both trained and untrained. In the first group were included pilots, air gunners and observers; in the second those whose duties were necessary to the operation of active service squadrons or training establishments.

Both of these groups required training, thus the problem of recruiting became in part, a training problem, and the rate at which recruiting could proceed was conditioned upon the rate of extension of existing training facilities.

Enlistments had been proceeding at a rate of about 1,000 per week, which under the circumstances, the Minister regarded as satisfactory. Since September 15 last over 115,000 men had requested and obtained information relative to enlistment in the Royal Canadian Air Force. Many had completed their enlistment papers and over 26,000 had passed the medical test and had been trade tested. Of these over 13,000 officers and men had been enlisted and the balance were being called up as rapidly as circumstances permitted. Of the 13,000 who had not been enlisted 1,433 desired to be trained as crew men; 7,962 wished to be trained tradesmen and 4,000 were unskilled.

As far as individual recruits were concerned the Minister said, their selection was determined by priority of application except to the extent that there might be a special need for those with special qualifications. Every applicant for enlistment was interviewed personally. If he possessed the necessary educational or other qualifications he was assisted in filling out an application form and advised as to how he should obtain proof of age and education. After that came the medical examination and when all requirements were met the recruit had to wait until the R. C. A. F. were in a position to take him on strength. He was then called up.

"We are keenly aware," said the Minister, "of the special qualities our young men possess and that fit them particularly to serve to advantage in our air forces, and we are determined to do everything in our power to make sure these special qualities are employed to the fullest extent."

No. 303 -- Mon. July 29, 1940 -- Hoodoos

When is a lady not a lady? -- when she's a Hoodoo.

Now, before our feminine readers arise in righteous wrath, let us explain that when we mention Hoodoos, we are getting down to things earthy, that they are not in any way connected with the nether world, witchcraft or voodooism, as their names would suggest. As a matter of fact, they are creations of old Mother Nature herself, works of art, unsullied by the hand of man. Therefore, the comparison, albeit remote perhaps in some opinions, is not in the least derogatory.

The Hoodoos under discussion are huge pillars of earth, cut by the constant wearing away by rain water of firmly cemented boulder clay and gravel. They have a protective capping boulder, balanced on the top, which reveals the original surface slope of the earth.

The allusion to their "feminine" appearance comes from the fact that, taken at a glance, a group of Hoodoos, looks for all the world like a crowd of ladies of the late 1800's with long, snug fitting coats, and huge wide-brimmed hats, talking and nodding to each other at a little social gathering. A closer inspection reveals, of course, several distinct differences, the contrast being, beyond the shadow of a doubt, in favor of the "real thing".

Besides being interesting and fantastic sights for tourists, these "demoiselles" are valuable sources of information for geologists concerning the original structure of the landscape. In Canada, there are undoubtedly several "settlements" of Hoodoos, but one particularly good specimen group is to be found in the valley of the Kicking Horse River in British Columbia.

No. 304 -- Tues. July 30, 1940 -- Rat a Fish Killer

Wolves, bears, fur seals and many other animals are familiar to the public as enemies which prey heavily on the fish stocks of Canada. But how many persons have ever placed the common rat in the category of a fish destroyer?

Recent evidence received by the Dominion Department of Fisheries from one of its officials in Nova Scotia presents a strong case against the rat as a fish enemy.

This official in checking up on his supply of year-old speckled trout maintained in the Cobequid Hatchery at Antigonish recently was both surprised and puzzled when he found no fewer than 217 of the young fish missing from the circular pond where the fish had been kept during the winter pending planting operations in the Fish Culture re-stocking programs. No clues were found as to the disappearance of the missing fish and for a time the matter was a profound mystery to hatchery employees.

With the coming of warmer weather and removal of the brush used for insulation around the intake pipes leading to the pond, came a solution of the disappearing trout and a strong case against Mr. Rat. As the brush was being removed a large rat ran out from under it, and subsequent examination revealed the animal's nest with two piles of freshly killed speckled trout beside it. The rat had captured the young fish and killed them, then removed them carefully to its nest apparently as a food supply. The trout were from three to four and one-half inches long, and it is assumed the rat must have lain in wait for the young trout near the shallower parts of the pond, pouncing on the schools of small fish as they ventured near the shore.

Commenting on the occurrence, the hatchery superintendent said: "This is the first experience had with rats interfering with live fish of this size." The case against the rat is apparently a good one and the fact that such a considerable amount of damage was done in a comparatively short time, must place the rat well to the front in the list of young fish enemies. Removal of the remainder of the brush revealed no additional nests or rats and the damage was evidently all caused by the one animal.

No. 305 -- Wed. July 31, 1940 -- Our Most Decorated Ace

Air Marshal ' W.A. Bishop, V.C., D.S.O., M.C., D.F.C., rated as one of the greatest air fighters in the world to-day, is now back in Canadian Air Force uniform as Director of Recruiting. At a recent meeting in Ottawa Air Marshal Bishop said:

"Twenty-five years ago I was proud to wear the uniform of the Royal Flying Corps. We felt, those of us in the Flying Services in the last war, that we had done our little bit to start a tradition for a new Service. The bravery, the dauntless courage of the Royal Air Force to-day, in which so many hundreds and thousands are Canadians, makes every man in the Royal Canadian Air Force thrill with pride that it is his privilege, as it is mine, to wear the same uniform as those gallant lads who, against great odds, are hourly showing the enemy and the world that the spirit of our Force is unbeatable.

"The Challenge comes to us in Canada to-day not only from those immortal souls who died in the first Great War but from the beleaguered bastions of Dunkerque.

"Yes -- the heroism of Dunkerque, the glorious gallantry of men of our two great races in Canada -- the gallantry of the men who fought and endured on land through the greatest retreat in history -- the gallantry of the Navies -- those grim relentless sentinels of our security; and above all, in every sense, the gallantry of those glorious captains of the clouds -- the youngsters of England,

fighting against vastly superior numbers -- forging a ring of flame around the slowly-giving ranks of wearied powder-blackened, torn but unbeaten khaki-clad men; yes, above all, guarding and guiding the undefeated troops of England home again.

"Per ardua ad astra" -- that is their motto. Let that be ours in Canada to-day through days of hardship and difficulty and distress."

Bishop brought down the first of his 72 enemy bag in March, 1917. The following month he was awarded the Military Cross; in June of that year he earned the Distinguished Service Order and the Victoria Cross was given him in recognition of one of the most daring war deeds. He attacked an aerodrome twelve miles behind the German lines single-handed. Three planes rose to meet him and were all shot down. King George the Fifth personally pinned the three decorations on Bishop at Buckingham Palace telling him he was the only man who had received them all at the same time. Later exploits gained Bishop the Distinguished Flying Cross, the Cross of a Chevalier of the Legion of Honour, and the Croix de Guerre. At the age of 24 Bishop had won almost all the coveted awards of war service.

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CANADA

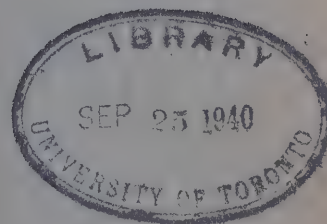
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James Muir,

Editor.

from the

Dominion Bureau of Statistics

No. 306 -- Thurs. Aug. 1, 1940 -- Yellow Birch for Aircraft

Yellow birch is finding increasing use in the construction of aircraft. Radical changes in the design of wooden aircraft, introduced in the past few years, have included the adoption of plywood coverings for wings and fuselages, and experience has shown that Canadian yellow birch is the most suitable of all woods for the manufacture of the extremely thin veneers from which these plywoods must be built up.

Yellow birch is the most important commercial hardwood in Canada. Its principal range in this country lies south of the line drawn from Michipicoten Harbour on the eastern side of Lake Superior to Quebec city, and in the Maritime Provinces. Mature trees reach diameters of from 20 to 30 inches and heights of from 60 to 80 feet, and exceptional specimens may attain a diameter of 36 inches and a height of 100 feet.

The wood is classed among the heavy hardwoods, weighing about 44 pounds per cubic foot in an air-dry condition. In hardness and other mechanical properties it is generally similar to white oak, although it is not quite so tough. It is of uniform texture and works well under tools, qualities which contribute to its suitability for the production of the thinnest of veneers.

The expanded rate of aircraft production has resulted in an increased demand, based on a great need, for yellow birch veneer logs. For so exacting a form of utilization only logs of the highest quality can be used, but Canada's reserves of this valuable war material are great and energetic steps are being taken to secure supplies adequate to the needs of the United Kingdom and of Canadian manufacturers.

The merits of British Columbia Sitka spruce were recognized during the war of 1914-18, and in the present crisis this valuable member of the spruce family is again being used in large quantities in the building of aircraft. Thus Canada is fortunate in having vast resources of the two kinds of woods most suitable for aircraft construction.

No. 307 -- Fri. Aug. 2, 1940 -- Guns of Sportsmen

There has been a good deal of misunderstanding about the guns of sportsmen in this year of war. These are the facts.

Sportsmen from the United States and other countries who have been in the habit of visiting Canada for the hunting season or for gun club or trap shooting, may continue to bring their firearms with them under the provisions of an Order in Council which permits the Commissioner of the Royal Canadian Mounted Police to grant individual permits to bona fide tourists. Ordinarily, aliens are prohibited from carrying firearms in Canada or having them in their possession.

Under the new regulations, intending hunters and others desiring to bring their firearms, together with a reasonable supply of ammunition, into the Dominion, are required to apply in advance by letter or telegram to the Commissioner of Customs at Ottawa, or to the Commissioner, Royal Canadian Mounted Police, Ottawa. Each applicant must state his name, address, and occupation; purpose and duration of visit; destination in Canada; description, make, and serial number of each firearm; and the prospective Canadian frontier port of arrival. The application should be supported by suitable references.

The bona fides of the applicant having been satisfactorily established, a permit will be forwarded to the Collector of Customs at the Canadian frontier customs port designated in the tourist's application, where it will be delivered to the tourist on arrival. No permits will be granted for automatic firearms, and ammunition imported is subject to the regular customs charges.

No. 308 -- Sat. Aug. 3, 1940 -- Canada's War Effort

Here is a handy summary of what Canada has done in the War and what it is proposed to do. Compare it with the first statement made some weeks ago and it will provide a note of progress.

1. Canada will shortly have a corps of two complete divisions and ancillary troops in the British Isles.
2. Would not serve common cause at this time to have additional Canadian forces added to this corps. Need in England is not manpower but equipment. Third and Fourth Divisions will be trained and equipped in Canada.
3. Recruiting for non-permanent active militia in Canada will be suspended from August 15. Thereafter men will enter militia on call under National Resources Mobilisation Act.
4. Compulsory training of men called, starts October 1, with 30,000 a month called and trained thereafter.
5. Compulsory training period; 30 days; pay, \$1.20 a day. First call probably men of 21 and 22 years.
6. All unmarried men in Canada between 21 and 45 years and physically fit may have to take 30 days military training within one year.
7. Canada can train 1,000,000 men under this system and not dislocate industry and primary products.
8. Defence department requirements may be met by calling up during first year single men from 21 to 35 years.
9. National registration boards for each military district and one for Prince Edward Island to be created with jurisdiction for calling up men.
10. All employers must, under penalty, put employees back in jobs or equivalent positions on completion of training period.

11. Total strength Canadian Active Service Force on July 21 both home and overseas, was 133,572. In five weeks, over 42,000 recruited for active service.
12. Britain prepared to resume almost at once shipments of training type planes urgently needed for Commonwealth Air Training Plan.
13. Royal Canadian Air Force strength at July 24: 1,765 officers; 17,688 airmen; 2,558 civilians. Twenty-two schools in operation.
14. Destroyer H.M.C.S. Fraser lost off Bordeaux has been replaced. Replacement will shortly be in commission.
15. Two new destroyers under construction in Great Britain for Canadian navy. Three merchant vessels are being converted into armed cruisers.
16. Strength Canadian Navy: 9,000 officers and men with 113 vessels. In near future 100 vessels will be added.
17. Canadian factories to produce airplanes at 360 a month early next year.
18. "Mark III" tanks to be produced at rate of 30 a month as soon as plant equipment is completed.
19. Artillery plant at cost of \$10,000,000 to be largest and most modern in British Empire.
20. Plants now under construction at cost of \$120,000,000 will have productive capacity of \$500,000,000 worth of goods a year.
21. Shipbuilding programme costing \$50,000,000 progressing satisfactorily.
22. Canada probably producing greater volume of automotive equipment than any country in world at 600 mechanized units a day.
23. War programme will require an expenditure of \$150,000,000 to \$200,000,000 this year in addition to the \$700,000,000 provided for war by Parliament.
24. Total sale of war savings certificates to July 27 had a face value of \$16,690,435.

No. 309 -- Sun. Aug. 4, 1940 -- Canada's Reply to Hitler

Canada's reply to Hitler strikes a note that should find instant response in every Canadian heart. Addressing the House of Commons, the Prime Minister described Hitler's speech before the Reichstag as "abounding in the historical falsehoods which have characterized his utterances since the outbreak of war... His words have been a succession of promises made and of promises broken. His works have been cruelty, rapine, bloodshed and violence."

The speech called for no words in reply, said Mr. Mackenzie King. It answered itself. The peace that would finally come to the world would not be

that "false Nazi peace where men move amid the hushed suspense of fear in the presence of the spy, the gangster and the Gestapo. Above all, it would never be a peace based on a conception of subordination of individual personality to the control of a materialistic and warlike state. It would be a peace which would re-establish liberty and re-affirm the rights of men.

"It will be a peace under which men and women can speak the truth in their hearts and live their lives without fear; a peace in which labour will have dignity, religion will have freedom, and little children will have security.

"The nations of the British Commonwealth have no doubt had many failings, but they have loved and honoured justice and mercy. Today they do not fight for power, they do not fight for the preservation of any form of government, they fight the battle of mankind. The battle ground has moved to the very home of freedom itself.

"There now the great qualities of the people of the British Isles shine more brightly than ever. The invasion of those islands will be the invasion of the sanctuaries of all free men. Their invader is our invader.

"Canadians are prouder than ever to share with the men and women of Britain the rigors of the conflict, and to stand shoulder to shoulder with them in the defence of social justice and of human liberty."

"I am sure the House will welcome the declaration made by the Prime Minister," commented Hon. R. B. Hanson, Conservative leader.

No. 310 --- Mon. Aug. 5, 1940 --- Canada's Military Policy

Hon. J. L. Ralston, Minister of Defence, informed the House of Commons that Canada's Military policy, to be continued and intensified, was maximum development of all Canada's resources in man power, weapons, equipment and training facilities. The objective is that Canada may throw its increasing military power into the scale in the most effective manner and in the minimum of time. Colonel Ralston gave this as the general order of priority:

"First the re-strengthening and the adequate organization of our fixed and mobile defences and our armed forces in the area of our Eastern Seaboard and of the approaches of the St. Lawrence. As will be immediately recognized, this is our most vulnerable area. Measures have been taken accordingly, and I can announce that a Command Headquarters is being set up immediately in the Maritimes, to organize, control and co-ordinate for operational purposes the forces in this area. These will include the Canadian Active Service Force and the Non-Permanent Militia Forces which are or will be located there. The object is to use them to the best advantage, in conjunction with the coast defence forces, wherever an attack may threaten. Included in this Command will be the Canadian Forces in Newfoundland.

"I need hardly say that in presently concentrating increased energies on the requirements of our East Coast, it is not to be assumed for an instant that the continued strengthening of our West Coast defences is being in any way overlooked.

Secondly, but of equal importance, and only secondary in the matter of immediate urgency, is the continued concentration of our resources on the training and equipping of the Canadian Active Service Force now organized in this country. Where these troops will eventually serve depends, of course, on the developments of the future. In the meantime, our policy is to continue the training and equipping of these units eventually as divisions, so that they may be ready for operations in whatever theatre they may be required, either in Canada or overseas. The front line is the Island Fortress of the British Isles and we will shortly have a Corps of two complete Divisions and ancillary troops in that front line. The House may be interested to know that my advisers are definitely of the opinion that it would not serve the common cause at this time to have additional Canadian Forces added to such a Corps. It must be remembered that there is at the moment no shortage of manpower in England. The real demand is for equipment.

"I am giving away no secret when I state that it is impossible for the United Kingdom to make up in two or three weeks the losses of equipment suffered by the gallant British Expeditionary Force during its epic struggle in, and subsequent withdrawal from France.

"Consequently, quite apart from any question of Canadian security we can make our best contribution at the present by training and equipping our 3rd and 4th Divisions in the Country. And so the "drive" is to bring the training and equipment of the Divisions now organized in this Country to the highest possible level in order that they may quickly be available for active operations, whenever or wherever the call may come for their services.

"Thirdly, we must provide the maximum preliminary training for the available manpower of Canada. It is obvious that this is a primary and essential step in the preparation of the citizens of this Country for the ultimate duty they may be called upon to perform -- that of defending their hearths and their homes against the possible attack of a ruthless enemy. That step is being taken now and is one of the purposes of the National Resources Mobilization Act.

"Fourthly, we must not for a moment lose sight of the necessity in certain instances of military protection to vulnerable points and the relation of the military forces to internal security. The matter of internal security is principally a police problem, but we are so arranging our organization that there shall be no gap between the responsibility of the police and the responsibility of the military forces to assist."

No. 311 -- Tues. Aug. 6, 1940 -- By Air and Sea

What Canada is doing in the air and at sea was outlined to the House of Commons by Hon. C. G. Power, Minister of National Defence for Air. He told how the turn of events in Europe had prompted speeding up in many ways of the British Commonwealth Air Training Plan. Personnel had been increased. Construction had been undertaken ahead of time. Schools were being opened months before the dates of schedule. Today, there were twenty-two schools in operation, although the original plan called for operation at this time of only fifteen. Eight elementary flying training schools were operating in place of two. Two initial training schools were operating in place of one. Besides the various types of schools, there were in operation twenty recruiting centres, three manning depots, three equipment depots and one repair depot.

Plans have been completed to finish construction this year of all aerodromes, hangars and other buildings for all schools scheduled to open in 1941, whereas much of this work was going to be carried out next year.

Mr. Power related, too, how ships of the Canadian navy had had their full share of onerous and dangerous duties since the outbreak of war. Some had been assigned to the Atlantic patrol, carrying out their important work in all sorts of weather with remarkable efficiency and conspicuous courage. Others had done duty in Caribbean waters. One destroyer, the Fraser, went down in a collision off Bordeaux. Forty-five of her crew were lost. Another Canadian destroyer, the Restigouche, distinguished herself rescuing survivors of the Arandora Star which was lost while carrying interned aliens.

No. 312 -- Wed. Aug. 7, 1940 -- Munitions and Supply

"Canada's industrial tempo is at the highest peak in our history," Hon. C. D. Howe, Minister of Munitions and Supply, told the House of Commons as he described how Canada aimed to be self-contained in the production of war material. During the past few months, machine tools had been bought in the United States and Canada in a volume which challenged imagination. And today's production, great as it was, was small as compared with what productive capacity would be six months hence.

Sixteen shipyards were carrying out a construction programme for larger warships. Major naval programme included 54 corvettes for the Royal Canadian Navy to the amount of \$29,400,000; 10 corvettes for the Royal Navy amounting to \$5,500,000 and 28 minesweepers for the Royal Canadian Navy amounting to \$16,500,000. Of the corvettes, several had already been launched. Ten more would be launched within the next five weeks.

Three fast passenger vessels were being converted into armed merchant cruisers at a cost of \$1,700,000.

Expected cost of aerodrome constructions on the 77 projects approved was \$15,500,000. Up to the present, the projects had involved purchase of 30,000 acres of land at a cost of approximately \$2,000,000. Grading of the aerodromes would involve moving 14,500,000 cubic yards of earth. The paving programme was equivalent to nearly 700 miles of standard highway, 21 feet wide.

Last week, Canadian factories delivered 25 finished aircraft. Eight Canadian aircraft companies had in hand orders totalling 3,200 planes of which 257 had been delivered. Contracts in hand involved approximately 110 million dollars. A production of 360 planes per month, or about 12 planes per day, was expected by early in 1941.

Perhaps no country in the world was producing automotive equipment in the volume that now obtained in Canada. Canadian Government orders now placed for mechanical transport alone amounted to \$54,500,000. Great Britain, South Africa, India and other parts of the British Empire were also large buyers.

British and Canadian orders were in hand for "Mark III" infantry tanks to a total value of \$63,000,000.

Mr. Howe also gave these figures: "Since the outbreak of war, this department and its predecessor boards have purchased over 18 million yards of woollen and cotton cloth, enough to stretch from Ottawa to Berlin and back again. This has been, or is being, manufactured into 400,000 service battle dress uniforms, 225,000 summer battle dress uniforms, 383,000 overcoats, winter and summer underwear and other items of clothing. Orders have been placed for 850,000 pairs of boots and shoes and production has been stepped up to 30,000 pairs per week. Production of battle dress is reaching 20,000 suits per week. Blankets are being produced at the rate of 30,000 per week; braces 18,000 per week; caps 18,000 per week; service shirts 12,500 per week; and greatcoats 7,000 per week.

"It may be interesting to note in passing that 350,000 cattle have contributed their skins to make the necessary quantity of shoes worn by the army, the navy and the air force."

No. 313 -- Thurs. Aug. 8, 1940 -- National Registration

Hon. J. G. Gardiner, Minister of National War Services, explaining plans for National Registration and calls for compulsory military training to the House of Commons, said that as soon as possible after it was ascertained that year classes would have to be called to meet the first demand of the Department of National Defence, a proclamation would be issued, warning all persons within such classes, commencing with the 21-year-old class, that they would be called for service within a certain designated time. The whole scheme, in broad terms, meant that:

- (a) As a result of the national registration the numbers of single men between the ages of 21 and 45 throughout Canada, and the number in each age class would be known.
- (b) The military authorities decide the number of men they propose to train within the next year.
- (c) Every medically fit male Canadian, subject to stated exceptions, between the said ages, up to the number the Department of National Defence can train, will be called up during the year for a period of thirty days training.
- (d) This will apply to every person, regardless of his occupation or any other consideration, save the small excepted list.
- (e) There will likely be eight calls within a year, and the age classes will be called up in consecutive order, and all must be trained within the year.

The exceptions are:

- (a) Judges of superior, district, or county courts of justice;
- (b) Regular clergymen or ministers of religious denominations, members of the clergy or religious orders;
- (c) Members of the naval, military, or air forces of Canada on active service;

- (d) Those who, in the opinion of the Minister of National Defence, have already received military training, within the previous twelve months, at least equivalent to that to be given to men being called up under these regulations;
- (e) Members of the Royal Canadian Mounted Police or provincial police forces;
- (f) Members of the police forces and fire brigades permanently employed in any incorporated city.
- (g) Wardens and officers of all penitentiaries, prisons, and lunatic asylums or mental hospitals.

The Government also proposes to recognize Orders in Council passed in 1873 granting certain privileges to Mennonites in Regard to military service.

No. 314 --- Fri. Aug. 9, 1940 --- Governmental Finance

Hon. J. L. Ilesley, Minister of Finance, gave these as the main features of the government's financial activities since war was declared:

- (1) At the September session a war appropriation of a hundred million dollars, with provision of the necessary borrowing powers to the government and enactment at that session of the first new war taxes indicating the main lines of the government's taxation policies.
- (2) The establishment in September of various economic organizations, including the war-time prices and trade board and the foreign exchange control board.
- (3) A moderate and carefully controlled expansion of money and credit during the first three months of the war.
- (4) The negotiation of a loan of two hundred million dollars from the chartered banks upon an issue of two-year two per cent notes.
- (5) Repatriation of ninety-two million dollars of Dominion government securities for the purpose of providing the British government with Canadian dollars with which to make purchases in this country.
- (6) Various other financial arrangements with the United Kingdom, including those connected with the British Commonwealth Air Training Scheme.
- (7) The first public war loan in January, which took the form of three and one-quarter per cent bonds issued at par, redeemable by lot over the five years from 1948 to 1952, and which resulted in a prompt and substantial over-subscription for the two hundred million dollars required in cash.
- (8) Unexpectedly buoyant revenues during the latter part of the fiscal year, enabling us to end the fiscal year with a deficit about seventy million dollars less than was anticipated in September and with a very strong cash position.

- (9) A reduction in the estimates for non-war expenditures for the new fiscal year to 448 million dollars from the comparable figure of 525 million dollars for the previous year.
- (10) Transfer in April to the foreign exchange control board of all our available holdings of gold and foreign exchange, including both private holdings and those of the Bank of Canada.

No. 315 -- Sat. Aug 10, 1940 -- On the Home Front

In one year, under the new plan, approximately 300,000 men will have received initial military training. These 300,000 men are to be regarded as the vanguard of a mighty Canadian Army which will be available to defend this country.

There are difficulties in withdrawing so many men from the normal life of the community even for the comparatively short period of training but difficulties cannot be allowed to obscure the goal to be reached. This is the beginning, not the end, of a policy. The plan has been worked out so that it can be speeded-up or slowed down as events require.

There are difficulties, also, in building quarters and manufacturing the equipment for this citizen army. Every effort is being made to guard against failure on either count.

One of the difficulties of the scheme is the shortage of competent instructors to train these men. Several thousand instructors will be needed. The problem has been foreseen and some schools have already been established. The instructors are being drawn from N.P.A.M. units and ex-service men.

This policy has been evolved to cause the minimum dislocation to industry. The rule will be that there can be no exemptions. Any postponements must be so arranged that everyone within the groups called who is physically fit must undergo training within a year. Physical fitness is defined as everyone classified by military medical standards as being C. 1 or better.

No distinction of any kind will be made between the new recruits, thus drafted, and the rest of the militia - except that the men called under this plan will not be available for duty outside of Canada unless they volunteer for such service. It is important that from the outset these men be regarded as members of the Canadian army. As recruits they will pass directly into the militia regiments. Automatically they will become members of the Canadian militia in their own right. They will share its traditions and be the custodians of its honor.

There is no intention of treating these men as so many human units to be put through a stamping machine and turned out as military robots. Every opportunity will be taken to cultivate our Canadian endowment of initiative, resourcefulness and self-reliance.

No. 316 — Sun. Aug. 11, 1940 — Military Training Plans

The magnitude of Canada's military training plans under the new National Registration scheme is disclosed by the following table. It shows the approximate picture of this enormous undertaking as it will likely affect the various sections of the Dominion. The table breaks down the total into figures for each military district. It will be seen that all districts both east and west will be called upon to play an important part in this vast plan.

The table also shows that each training centre will be amply staffed by both training and administrative personnel to ensure that the maximum benefit will be received by the men in training and that their welfare will be properly administered.

<u>Military District</u>	<u>Approx. No. of Tr. Centres</u>	<u>No. of Training Companies</u>	<u>Staff Admst. & Instrl.</u>	<u>Men Training Per 30-day Period</u>	<u>Men Trained Over Total of 10 Periods</u>
1	3	12	546	3,000	30,000
2	4	16	728	4,000	40,000
3	2	9	388	2,250	22,500
4	6	24	1092	6,000	60,000
5	3	12	546	3,000	30,000
6	2	8	364	2,000	20,000
7	1	4	182	1,000	10,000
10	3	10	479	2,500	25,000
11	2	8	364	2,000	20,000
12	2	8	364	2,000	20,000
13	2	8	364	2,000	20,000
<hr/>					
TOTAL ALL Districts	30	119	5,417	29,750+	297,500

+ - Instructional and Administrative Staff, approximately : 900 Officers
1830 N.C.O. Instructors
300 Admst. N.C.O.'s (Sgt. Cooks, Provost, Q.M. Etc.)
2387 Clerks, Cooks, Butchers, Orderlies, Etc.

No. 317 — Mon. Aug. 12, 1940 — Many Trades in Air Force

In the British Commonwealth Air Training Plan it is estimated that one in ten airmen, forming the complement of a "flight", can be classed as pilots. Organization and administration, repair and inspection of aircraft and equipment, aeronautical development and a multitude of other duties absorb the services of many men vital to the actual flying operations.

Hence a wide variety of occupations and trades are being incorporated into the Air Force. Qualifications for some of these illustrate the highly specialized nature of work. Aero engine mechanics, with a thorough knowledge of internal combustion engines and familiar with the methods of fitting bearings, piston and piston rings, valve grinding and engine timing, are required to keep the equipment in top shape. Then there are armament artificers, highly qualified mechanics with scientific knowledge.

Men taken on as clerks must be stenographers familiar with filing systems and general accounting.

The term disciplinarian has been applied to men who will have charge of the physical training of recruits.

Electricians in the Air Force are expected to have a working knowledge of motors, generators and batteries and a practical knowledge of materials used in the trade. The electrician must be able to diagnose faults in circuits and electrical apparatus, and read wiring diagrams.

The fabric worker must be familiar with cutting, machining and the fitting of fabric to aircraft, be capable to sewing by hand and of applying all types of paints, dopes and varnishes.

A knowledge of the heat treatment of tools, springs and instrument parts is a necessary qualification for instrument repairers. They must know the physical properties of materials used in instruments with a knowledge of electricity, magnetism, general physics and mechanics.

The machinist must be proficient in the handling of lathes, milling machines, shapers, grinders and planers.

Motor transport mechanics, besides proficiency in repairing and overhauling trucks, must have a knowledge of map reading, police and highway regulations.

The metal worker and the metal airframe mechanic must be familiar with the use and maintenance of hand tools and shop equipment, understand working drawings and elementary geometry as applied to sheet metal work, have a knowledge of rivetting, panel beating, planishing, flanging, brazing and soft soldering and acetylene welding.

Wireless and electrical mechanics should have sufficient knowledge of elementary electricity, magnetism and radio principles to manipulate wireless apparatus in common use. They must be capable of sending and receiving Morse at the rate of 18 words per minute. "Ham" operators, as amateur radio enthusiasts are called, may find in the R.C.A.F. an excellent outlet for their energies and ability.

Photography is of vital importance to the Air Force in modern warfare. To qualify as a photographer the recruit should be familiar with the history and characteristics of lenses and filters, have had experience in the use of different types of cameras and printing equipment, and understand the handling and chemistry of film development.

The airmen engaged in these trades and occupations within the Air Force make an important contribution to the training of pilots, air gunners and air observers.

No. 318 -- Tues. Aug. 13, 1940 -- Air Gunners and Observers -- 1

Air Gunners and Air Observers, unsung heroes of the first great war, have come into their own in the modern style of sky fighting. A Royal Canadian Air Force crew works with all the close co-ordination of a football team in this new war.

The gunners and observers share the pages of Air Force gallantry along with the pilots. It is "all for one and one for all", since the pilot of today cannot carry out his mission without the aid of his gunners for protection and wireless communication and his observers for navigation, bombing, photography and observation.

The Royal Air Force innovation of a multiple-gun power turret mounted in an aeroplane has enabled keen-eyed air gunners of the Empire air forces to take deadly toll of enemy aircraft with slashing broadsides of machine-gun fire like a salvo from a battleship's heavy guns.

The four-gun turrets make Britain's latest fighters and bombers literally battleships of the air. Just as the R.A.F. was first to arm single seat fighters with a devastating volume of fire from eight machine guns mounted in the wing, the power turrets now provide the larger planes with a deadlier weapon than their antagonists.

The air gunner is of tremendous importance in this war. Bombing and reconnaissance aircraft carrying the Empire's insignia on their wings make a formidable foe, as tremendous German air losses in recent massed fighting over France indisputably proved.

The Boulton and Paul Defiant, newest two seater fighter, is essentially an aeroplane for the gunner. The shooting is left to the gunner enclosed in the power turret just behind the pilot's seat. Four machine guns each capable of a rate of 1,200 rounds a minute poke from the turret, which revolves automatically at the touch of a control. He can fire forward, upward, downward on each side, and sweep a hail of nickel-jacketed death at the rate of 80 bullets a second at any plane crossing the tail of his own machine. As the line of fire crosses his own rudder and tail fins, the guns cease fire automatically, resuming their clatter when safely past the tail assembly.

Defiants, similar in appearance to the single seater Spitfires, mixed with spitfire formations during the fierce air fighting over Dunkirk. Swarms of German fighters dove at the "Spitfire" from the rear in anticipation of easy victory, but met a stinging fire from the Defiants' four-gun turrets while the real spitfires, secure as to defence behind, opened up with their eight wing guns at anything that

lay in front of the mixed formation. One squadron of 12 Defiants knocked down 50 German planes in two days without losing one of their own number.

Big British Bombers and flying boats mount power turrets in their noses, as "blisters" on the top of the fuselage, and as a sting in the tail. Their gunners, battling against numerical superiority of the enemy, have made scores easily comparable to the individual tallies of the fighter pilots in Hurricanes and Spitfires.

No. 319 -- Wed. Aug. 14, 1940 -- Air Gunners and Observers - 2

Gunners, like air observers, have more than one job to do in the modern air force. The aircraft's crew must function with the team work and precision of a star formation flying squadron at a peacetime air display.

Gunners are wireless operators, too. By their radio they keep in touch with ground control stations and with other planes in the formation. While war planes keep radios silent as much as possible to avoid detection, once the enemy is sighted, the radio crackles orders. The voice of the formation commander issues movement orders just as a naval commander marshals his vessels into battle array.

On more prosaic missions of co-operating with army and navy, the wireless operator relays to artillery batteries and ground commanders what those in his plane can see, spotting artillery fire and revealing movements of enemy forces, operators working with the fleet or on convoy duty relay information of an enemy submarine or other raider sighted.

Air observers become air navigators and air bombers when their trained eyes are not sweeping the world below, sketching maps or taking aerial photographs. As navigators, it is their responsibility to lay the course through fog and rain or blackness of night from the home base to the objective, and, once there, to lead the crew safely home again. They are also skilled in using the complex electrical bombsight, lying prone with an eye glued to the bombsight aiming through a glass window in the floor. A finger touch on a button close at hand opens the bomb ports, sending the missiles plunging to the target.

Arduous training goes into the making of air gunners and observers. Thousands of physically fit young men aged from 18 to 32 will receive such training under the British Commonwealth Air Training Plan in Canada.

The prospective air gunners and observers report to a manning depot, where they receive uniforms and kit, learn to salute and drill for two weeks or so. The next step is four weeks in an initial training school for a more formal introduction to Air Force life.

They next go to specialized schools. Air observers proceed to one of 10 air observers schools for 12 weeks of intensive study of the intricacies of air navigation, reconnaissance work and photography. Then follow six weeks of bombing and gunnery school, of which there are 10, and then a course of four weeks at one of the two air navigation schools for advanced studies in that subject. The total course for an air observer takes 26 weeks, shortest of all air crewman.

The future air gunners are posted to one of the four wireless schools for 24 weeks of radio work, both code and voice. They get a more intimate knowledge of air marksmanship and bomb dropping at the bombing and gunnery schools, a course of four weeks in their case, before they proceed to join the observers and pilots in the pool to await a draft to call them for overseas service.

No. 320 -- Thurs. Aug. 15, 1940 -- Watching the Ships

During 24 hours of every war-troubled day an unimpressive little vessel of drab grey, sister to craft spotted at all of Canada's ocean harbours, bobs and tosses in the waves of the Atlantic just off the entrance to an east coast port.

The insignificance of the little vessel is sharply accentuated every time one of the lean, grim ships of the British or Canadian fleet slips past her.

But with all of her humble appearance, she commands the respect and immediate attention of every merchant ship, be it proud liner or rusty tramp.

She is the examination vessel of the Royal Canadian Navy and to disobey her warning to stop would bring a hail of shrieking steel from the ever-ready muzzles of coastal batteries concealed among the pleasant green foliage of the shoreline.

In many ways, it is a monotonous job for the crew of the little craft, lying at anchor day in and day out while fog lifts and falls and the fretful winds of the North Atlantic moan through the rigging and pluck at the special signal flag of the examination service that flies from the mast. But often it is an extremely busy job, when ship after ship comes up from beyond the horizon, sometimes at the rate of more than one an hour.

Each new-comer reaching the range of the signal lamp aboard the examination vessel is greeted by a series of winks and blinks that informs him he is to stand by to receive an examining officer. Occasionally, by accident or design, incoming vessels have ignored the signals, only to receive a much more pointed order in the shape of a light shell across the bow from a coastal gun crew that has been sitting with itchy trigger-fingers ever since war began. When the incoming vessel hoves to, the boarding party leaves the examination craft in a small boat and rows to the side of the visitor. For the next few minutes the boarding officer is closeted with the ship's officers while papers are produced and carefully inspected.

If everything is in good order, the boarding officer returns to the examination vessel and the "O.K." signal starts its rounds. Within a few moments every officer in charge of the defences of the port knows who the visitor is and all about him. It is then, and only then, that the anti-submarine gates are swung open and the visiting vessel is allowed to pass into the sheltered harbour.

Despite the grim necessities of war, courtesy characterizes the examination process. It is a brand of politeness that is at all times associated with naval men. When the formalities are over, they are invariably followed by handshakes and grins. Sometimes, when the ship is not British or American, language difficulties arise, but, according to the examining officers, few are the skippers on the seven seas who haven't acquired enough English to understand or make themselves understood.

Night and day, throughout the year, these watchdogs at Canada's Atlantic doorway carry on their duty. Their job is not one surrounded by the glory that accompanies the dashing destroyer or the floating fortress, but their part is no less vital in the far-flung pattern of defence formed by the "silent service" of the Empire.

No. 321 -- Fri. Aug. 16, 1940 -- Fisherman's Reserve

When the deck's covered with fish scales the gas powered fish boat looks useful but not beautiful. But dress her up with a coat of grey paint, give the commander the rank of "Skipper" and she becomes one of the units of the Royal Canadian Navy and is proud of it! From a drab she becomes a lady with a certificate of character. Proudly she flies the naval ensign and with her engine beating its slow explosions over the tide, breasts the waters of a coastal port on her way to do a little job for His Majesty.

Up the sharp indented but lengthy fjords of the Pacific Coast she noses her deliberate way, to see all if possible, to hear all and report "All's well" to headquarters. Every fishing village, Indian village, lumber town, mine centre and logging camp knows her now. The skipper's white-topped naval cap will gleam in the sunshine, his normally uncaring crew in the smart uniforms of regular naval ratings will "tie her to the wharf", gaining new and unaccustomed prestige from their familiars of other days, when they were merely "hands."

That's what a war can do. It can trim the sloppy - used in no depreciatory sense - craft of the fisherman into smart naval units, an analogous procedure on the sea to that on land, by which the peaceful toiler is turned out, in battle dress, as a soldier. And as the landsmen can be made to complete his military evolutions smartly and efficiently, so the fishermen's boats can manoeuvre together on the water. In line abreast, in quarter line, in line ahead, these vessels chug-chug their way on order, emulating as smartly and as proudly, their bigger sisters of the service. They can scout, manoeuvre, sweep for mines or lay depth charges against submarines. Their Lewis guns or rifles will shatter the drifting menace of a hostile mine or take care of their own defence.

"Fisherman's Reserve", that is what they become in official terms. Each has its number and its job. War called them from peace to a job they could do for the country, and there they are, spread from Cape Flattery to Alaska, alert and resourceful. Not wishing it out loud perhaps, but inwardly hoping that if there is any dirty work by the enemy, they will be there to cope with it.

In the boats with which they are familiar, for in most cases they own them, the skippers set out. That is their rank, "Skipper" and officially their boats are "reserve boats". Their crew usually includes a petty officer and two, three or four seamen depending on the size of the vessel. These may be reservists with naval experience, but generally they are the hands who have been accustomed to working with the "Skipper" and his boat in peacetime. They all receive as much training as is possible to give them. But this is incidental. Their great value lies in several other qualities of which may be cited, mobility, manoeuvrability in shallow coastal waters, the knowledge of the personnel of the coast, bays, and harbors and their familiarity with all that pertains to the sea.

The Fishermen's Reserve was an inspiration and its utility in this war is no less pronounced than the pride of the men in being able thus to serve their country.

No. 322 -- Sat. Aug. 17, 1940 -- Sweeping for Mines

Most monotonous job in the Royal Canadian Navy is performed by the stubby-hulled little vessels that buck the gales of the Atlantic to keep Canada's harbour approaches free from mines.

Hour after hour, summer and winter, they wallow and strain through the seas dragging their mine-sweeping equipment behind them. Their crews know that, at present, their chances of snaring a mine are small, but they also know that a crop of death might be sown beneath the surface of the sea at any time. On the Atlantic coast these minesweepers keep clean some of the busiest shipping channels in the world, channels that carry men and material of countless value to the Motherland in her life-and-death struggle.

The day of a minesweeper starts shortly after the first rays of the sun spread across the chilly waters of the North Atlantic. Even during these summer days the ocean winds are cool enough to make necessary the wearing of heavy coats and mufflers. The skipper has already received a chart telling him which channels must be swept during the day. The sweepers usually work in teams of three and four. The senior ship takes the lead and the others spread out behind her in echelon, so that each sweeps part of a wide channel.

The mine-sweeping equipment is so arranged that anchored mines are snipped from their moorings whenever the long drag-line comes into contact with their cables, and guides them to the special cutting apparatus. When they bob to the surface after their line has been severed, they may be destroyed with rifle fire or perhaps taken with extreme care into port for examination.

Each minesweeper carries on its forward deck a gun capable of delivering a severe blow if the necessity arises. At the stern are carried a number of depth charges. They are thus prepared for encounters with submarines whether the latter be on the surface or under water.

Stout little ships, they operate in all kinds of weather conditions with the exception of dense fog, when a mine might be cut adrift without the knowledge of the crew. Possibility of collision is another of the factors keeping the minesweeper in port when the fog banks roll in from the Atlantic.

When weather conditions are favourable, the sweepers labour up and down the channels from dawn until far past the setting of the sun. Not until actual darkness has arrived do they point their blunt steel noses homeward. There they wait until sunrise for another trip in search of the black globes of destruction which may be lurking beneath the surface of the sea.

No. 323 -- Sun. Aug. 18, 1940 -- The Nursing Sisters

No branch of the military service is regarded with more respect or recalled with deeper memory by veteran soldiers than the Nursing Service of the Royal Canadian Army Medical Corps. The nature of the work done by the Nursing Sisters, their devotion and untiring energy have left an indelible record to soften the grim tragedies of sickness and injuries in war.

In peace time, the Permanent Force Nursing Service on duty in Canada is very small, being comprised of one Matron and ten Nursing Sisters and in most stations one Nursing Sister only. The Medical Officers, Sisters and non-commissioned officers in Military Hospitals hold courses to qualify nurses for the Royal Canadian Army Medical Corps, Non-Permanent. These Nursing Sisters, after passing required examinations, are called to the Military Hospitals when needed for special cases, camp or relief. Keenly interested in military work, they have taken a month's course, attended lectures and spent specified time on duty in the wards without pay. In this way there is a steady flow of new graduates who understand military routine.

When overseas, the Nursing Sisters are stationed in general hospitals, stationary hospitals, casualty clearing stations behind the lines, and may be posted to hospital ships or ambulance trains. The duties of a Nursing Sister in a military hospital unit are in many ways the same as in a civil institution, but naturally conditions vary in war nursing, and the adaptable nurse proves most useful. She must be able to instruct orderlies in nursing duties as a number of these may be untrained when sent to her ward.

Quarters and mess of Nursing Sisters are made as comfortable as circumstances permit. In larger units there is usually a Home Sister on duty to supervise the home, teach maids, if these are supplied, help in entertaining and generally make the Sister's life as agreeable as possible.

The dominating color in the Nursing Sister's uniform is blue. She wears a tunic of mid-blue gabardine, a great-coat of dark blue melton or broadcloth, a recreation dress of navy blue serge coat and skirt. A navy blue felt hat, with a corded ribbon and narrow brim tops the attire. The hat for summer wear will be white felt. R.C.A.M.C. badge is borne on the front of the hat. Gilt badges of rank on each shoulder strap of the tunic and great-coat are worn as follows; Matron-in-chief, a crown; Matrons, three stars; Nursing Sisters, two stars.

No. 324 - Mon. Aug. 19, 1940 - Lorries as Workshops

Mechanization is the keynote of modern warfare. Wars of movement are fought on heavy rubber tires and steel caterpillar threads. Fighting vehicles and mechanized transport must be kept in readiness at all times to speed troops across all types of terrain, ranging from smooth concrete highways to brush country and ploughed fields.

All this means service. Armies and army divisions cannot count on wayside garages and service stations to do their repair and re-fuelling jobs. To meet these needs the Department of National Defence has introduced specialized units and equipment as part of its Army Field Workshops.

Each army division in the field is accompanied by two complete motor transport lorries. Each is the equivalent of a modern city garage. Designed by the Department's technical staff, each unit has a special steel body mounted on six wheels with four wheel drive and heavy duty chassis.

Each workshop lorry is equipped with its own electrical plant, to operate electric grinders, drills, refacers, lathes, brake servicing equipment and other tools.

Lubrication, battery service and overhauling facilities, including the boring of cylinders, the fitting of pistons, valve grinding and welding are provided in this modern garage on wheels.

All tools required, specially designed by the Department's technical experts with a view to portability, are part of each lorry unit.

According to the Department of National Defence, Canada's is the first army to adapt such units to regular Army divisions.

No. 325 --- Tues. Aug. 20, 1940 --- Business Conditions During War

How war affects business and business conditions is well illustrated by comparison between the first six months of 1940 and the corresponding six months of 1939. It is a subject over which disputes constantly arise.

Generally speaking, business operations were over 18 per cent greater than in 1939, and the upward trend has been well maintained month by month. As to be expected, a development of importance was the shift from the production of goods intended for consumption by the general public, or what are technically known as consumers' goods, to commodities intended for consumption by producers. Wherewithal for the factories, partially manufactured goods are an example of producers' commodities.

These indicate clearly the effect of war on industrial expansion, and war orders persistently placed since the outbreak are now having an important bearing on industrial activity. A number of new plants under construction and existing plants engaged in war demands are accelerating operations. Manufacturing production rose nearly 25 per cent.

A marked increase was shown in wholesale prices commencing immediately upon the declaration of war. The advance continued to the first quarter of the present year but recently speculative commodities have shown some recession. The increase in customs and excise duties is leading to increases in certain commodities, while lack of sufficient demand for grain and a number of other items unessential to military operations has led to recessions of sufficient importance to counterbalance the advances in other lines.

As to be expected, the primary iron and steel industry had a very marked advance. Steel ingots rose 65 per cent and pig iron production 85 per cent. Railway traffic movement was up 17 per cent, while the gross revenues on the Canadian lines of the C.N.R. increased by about 32 per cent, while C.P.R. gross revenues rose 21 per cent. Employment showed a 7 per cent increase.

No. 326 --- Wed. Aug. 21, 1940 --- From German-Canadians

Canada has a population of over eleven million people and nearly half a million of these are of German origin. The following wonderful editorial, therefore, which appeared on July 24 in Der Nordwesten of Winnipeg, will be read with particular interest:

"The registration of all Canadians is a timely and right action on the part of the Dominion Government. Under the dynamic guidance of the newly appointed Minister of War Services, the Hon. James G. Gardiner, the task is likely to be completed with speed and efficiency. While the primary object is not to draft men into military service, it will ascertain in a very thorough manner who is fitted for such and who is not; and it will also reveal what contributions Canadians as individuals can make to the War that Canada, together with the Empire and its other Dominions, is waging against the tyrannical forces of Hitler and Mussolini, now seeking to destroy every shred of liberty and freedom enjoyed by the Free Democracies of the World. This National Registration is compulsory and any evasion is punishable by severe penalty. But even if that were not the case, we believe our people of all races would comply with it readily. In doing this, however, let no one delude himself with the thought that his responsibilities are over. As far as we in this country are concerned, they are only commencing for all of us.

"The views expressed by Der Nordwesten from week to week do not exaggerate the seriousness of the situation that confronts us. We believe our readers understand that, for our attitude has been generally commended.

"It would be much more pleasant if we could say that we are safe on this side of the Atlantic from the terror which is, day and night, sweeping over the British Isles. But we are not — and though we should escape the physical dangers, what would it profit us, if we were to be subjugated instead?

"We are keenly appreciative of the difficulties that the tragedy forced upon us, brings to loyal German Canadians. Many of them still have close ties of kinship with their Fatherland and the sentiments which arise from that fact are not readily eradicated, nor should they be under less dangerous circumstances. This, however, is the day of stern realism. All those who love Canada must put Canada first, and must act with all the force of which they are capable, remembering that the War is not of Canada's creation, not of Britain's creation, but was conceived and plotted in the Chancelleries of Germany and Italy, with the dominating object of crushing all nations that would not bow the knee to the Dictators' views of civilization. This is the challenge which Britain and her Dominions (with their own absolute power of self-government) accepted. This is the War which, with Canada's help in man power, supplies and undaunted courage, must be won, and will be won if all that is worth living for is not to vanish from this land which we cheerfully accepted as our home.

"As a newspaper now serving its nationality throughout the Dominion over half a century, we feel that there should be no misunderstanding among our people. If there are any newspapers printed in the German language in Canada that are not dealing with the drastic realities of the War and that unequivocally, they are rendering a disservice not only to the country, but to the vast majority of the German people whose loyalty to Canadian Institutions is not now, and never was, in question."

No. 327 -- Thurs. Aug. 22, 1940 -- Saving the Larch

Wartime has brought home to us, probably as never before, the value of Canadian woods and the importance of saving the trees from the pests. One of these pests is the larch sawfly.

The larch sawfly is a European insect which was first reported in the United States in 1881. The following year it was found in Canada. It spread rapidly until the infested area coincided with the distribution of eastern larch, commonly known as hackmatack or tamarack. After a few years of repeated defoliation, the mature larch over millions of acres in eastern Canada were almost wiped out. Since the initial outbreaks the younger larch, too, have suffered from periodic outbreaks and recently the insect invaded British Columbia, where it attacked the more valuable western larch.

The destruction to larch is caused by a greyish-green larva, or "worm" which devours the foliage during July and August, giving the trees the appearance of having been swept with fire. At the completion of feeding, the larva drops to the ground to spin its cocoon, from which an adult fly emerges the following spring. The adult, upon emergence, deposits its eggs in slits in the new shoots. After an incubation period of a few days a new generation of larvae issues from the eggs, and the injury by the insect is repeated.

In 1906, the Division of Entomology at Ottawa took steps to check the ravages of this insect. It was discovered that the insect in England was kept under control by a parasitic fly (*Mesoleius tenthredinis* Htg.). This parasite searches out, and lays its egg within the sawfly larvae on the trees. The parasitized larva continues its feeding and makes its cocoon. At this stage the parasite egg develops into a maggot which gradually devours the contents of the cocoon. Instead of a sawfly adult issuing in the spring, a parasite emerges and renews the attack on the destructive sawfly larvae.

Some of the parasites were brought to Canada and small colonies were released in Ontario in 1910 and in Quebec in 1911. The parasite has since checked several infestations in Quebec and has been recovered 265 miles from one of the original liberation points.

In recent years the parasite has been recolonized in other areas in Canada. It has been released in New Brunswick where its establishment has been very rapid.

No. 328 -- Fri. Aug. 23, 1940 -- Drilling for Oil

Drilling for oil - vital force of mechanized war - is under way in regions extending from New Brunswick in the east to Alberta and the Mackenzie river in the northwest. In the Peace River district of British Columbia, drilling is expected soon.

Alberta ranks first as producer of oil and gas in the Dominion. The Turner Valley field is responsible for most of the production, with a yield in 1939 of 7,456,000 barrels of petroleum. Turner Valley produces 96 per cent of all petroleum produced in Canada.

In New Brunswick, the Stoney Creek field has been producing oil and gas since 1909. Up to 1939, the field had produced and delivered for consumption 17,500,000,000 cubic feet of gas and produced 240,000 barrels of oil.

After the lapse of a quarter of a century, interest has again been revived in petroleum possibilities of Gaspé peninsula. To test possibilities, a well is now being drilled 30 miles west of the town of Gaspé.

All the commercially productive oil and gas fields so far discovered in Ontario lie south of a line drawn from Sarnia to Hamilton. East of Hamilton, all wells producing gas in commercial quantity lie a few miles south of the Niagara escarpment. Exploratory drilling is in progress on Manitoulin Island.

No oil or gas in commercial quantity has been found in Manitoba, and oil and gas production in Saskatchewan is confined to the district of Lloydminster on the Alberta boundary. Experts however consider that the whole plains region of Saskatchewan is worthy of prospecting for oil and gas.

In Northwest territories, about 50 miles north of Fort Norman on the Mackenzie, two wells are producing oil. Expansion of the field is curtailed by limited local demand, poor transportation facilities and distance from outside markets.

The Provincial government of British Columbia has made arrangements to test certain areas in the Peace River block during the present summer.

No. 329 -- Sat. Aug. 24, 1940 -- Farm Woodlots Valuable

Advice to the farmer on how to manage his farm woodlot is contained in a bulletin entitled "Farm Woodlots in Eastern Canada" prepared under the direction of the Associate Committee on Forestry of the National Research Council and published recently by the Committee of the Privy Council on Scientific and Industrial Research, of which the Hon. James A. MacKinnon is chairman.

The bulletin is intended as a help in the rational development and utilization of farm woodlots. In many cases these are capable of supplying a more substantial revenue than is ordinarily realized.

Canada's prosperity depends on its farms. The business of agriculture has from two to three times as much money involved as the next largest basic industry in the country - that of mining - and the net value of the agricultural output about equals the total value of products from the next five branches of primary production. As in other lines of activity, however, maximum farm returns are possible only through complete development of all parts making up the whole. More than 16,000,000 acres, or one-third of the total farm land in the five eastern provinces, is woodland.

Farm woodlots should be twice as productive as they now are. Although this increased production might be absorbed by existing markets, it would probably cause new industries requiring special products to spring up in many communities. Farm woodlots occupy an enviable place among possible sources of wood supply because their ideal accessibility ensures their products of a favoured place in the market.

Woodlots should be kept in a condition that will ensure the maximum yearly growth of the right kind of trees. Cutting should be done at the proper time and material sold in the market giving the best returns. Good management involves the same principles every farmer applies in the raising and disposal of his cultivated crops. The bulletin discusses these questions fully and clearly.

Other chapters deal with methods of tree planting, suggestions for the

improvement of existing stands, methods of estimating standing timber on land tracts of a few acres, how to protect the woodlot from fire, wind storms, tree diseases and harmful forest insects, and there is finally a chapter entitled specifications, dimensions and utilization of different products of the woodlot.

No. 330 - Sun. Aug. 25, 1940 -- Canada Second in Gold Production

Of far-reaching importance is Canada's gold production. Gold provides the sinews of war. In the midst of war comes this cheering news from the Dominion Bureau of Statistics:

According to preliminary statistics of world production, Canada probably ranked second as a gold producing country in 1939, being surpassed in output only by the Union of South Africa and possibly Russia; the mine output of recoverable gold in the United States in 1939, and not inclusive of production in the Philippine Islands, was reported by the United States Bureau of Mines, in a preliminary statement, at 4,603,-425 fine ounces; output in the Transvaal during the same period was approximately 12,819,000 fine ounces. Reliable data relating to gold production in Russia are unavailable at present and it has been recently stated that Russian output is somewhere between 4,000,000 and 5,000,000 fine ounces per year.

The estimated average price per ounce of fine gold, expressed in Canadian currency, was \$36.1365 in 1939 compared with \$35.17 in 1938. Practically all new bullion produced in the Dominion from Canadian ores is sold to the Dominion Government through the Royal Canadian Mint at Ottawa or to the Dominion Assay Office at Vancouver. This gold is refined, converted into fine gold bars weighing approximately 400 ounces each, and is usually disposed of in world markets wherever the most advantageous net price can be obtained.

Production of new gold in Canada from all primary sources totalled 5,094,379 fine troy ounces in 1939 compared with 4,725,117 fine troy ounces in 1938. The gross value of output in 1939 amounted to \$184,115,951 or an increase of 10.8 per cent over the corresponding value of the preceding year. Of the total output in 1939, the mines of Ontario contributed 3,086,076 fine ounces; Quebec, 953,377 fine ounces; British Columbia, 626,970 fine ounces and Manitoba, 180,875 fine ounces; lesser quantities were recovered in the Yukon, Saskatchewan, Nova Scotia, the Northwest Territories and Alberta. Production according to type of deposit or nature of recovery included 82.14 per cent in crude gold bullion bars produced at "gold mines"; 2.47 per cent from alluvial deposits; 10.36 per cent in blister or anode copper; 0.63 per cent in base bullion made chiefly from silver-lead ores and 4.40 per cent in copper-nickel matte, ores, slags, etc., exported. The quantity and value of gold produced in Canada during 1939 were the greatest ever recorded in the history of the Canadian mining industry.

Gold mining in Canada is classified into three principal industries - (a) the recovery of gold from the gravels and sands of stream channels or beaches or what is defined as "The Alluvial Gold Mining Industry"; (b) the recovery of lode gold, which is named "The Auriferous Quartz Mining Industry" and in which industry the gold is usually the most important economic constituent of the ores mined and quartz the predominant gangue mineral; (c) gold is often found in various other mineral deposits, more particularly in those of copper, and for this reason the review of Canada's "Copper-Gold-Silver Mining Industry" is included here to complete a more comprehensive survey of the Canadian Gold Mining Industry.

No. 331 -- Mon. Aug. 26, 1940 -- Canada's Gold Area

The great part of the gold of Canada comes from the Canadian Shield, an immense area of precambrian rocks extending from the Labrador Coast westward almost to the mouth of MacKenzie River. The area of the shield is roughly 1,825,000 square miles, almost half of Canada. The deposits of the shield are of two main types, namely, quartz veins, from which most of the gold, up to the present time, has been won, and sulphide deposits which produce a smaller but very considerable proportion. The second great source of gold in Canada has been the Western or Cordilleran section, comprising British Columbia and Yukon Territories; the gold production from this section includes relatively large quantities obtained from alluvial deposits. The third principal area in which gold deposits occur is the Acadian region of Eastern Canada, the metal occurring principally in Nova Scotia where it has been mined since 1862.

The number of Canadian gold mining firms reporting mining operations in 1939 totalled 455 compared with 535 in 1938; 80 in 1929 and 65 in 1923. During the year under review there were 474 properties in operation compared with 550 in 1938; in 1939, 232 mines reported production as against 226 in 1938 and 33 in 1923.

The gross value of output for the entire industry and including the value of all recoverable metals, including gold, silver, etc., totalled \$160,014,172 in 1939 compared with \$143,146,911 in 1938. Of the 1939 total, \$109,737,969 were contributed by mines in Ontario, \$24,665,228 by mines in Quebec, and \$18,539,368 by the gold mines of British Columbia.

Employees in the lode gold mining industry totalled 30,622 compared with 29,647 in 1938 and 5,524 in 1923. Salaries and wages paid increased from a total of \$50,462,092 in 1938 to \$53,206,225 in 1939 and fuel and purchased electricity consumed by the industry during 1939 amounted to \$7,952,580 while the cost of explosives, drill steel and other process supplies used in the same period amounted to \$19,484,870.

Dividends paid during 1939, as computed from actual returns made by the lode gold mining industry, totalled \$42,060,008.

No. 332 -- Tues. Aug 27, 1940 -- Beds

It has been estimated that the average normal person spends from one-third to one-half of his entire life sleeping. What a woeful waste of time.

Sleep, like many another biological process, is said to be merely a habit. It has been developing over a period of millions of years of evolution, until now we can't seem to do without it. Sir Robert Borden once said to a newspaper correspondent that he only required four hours of sleep a day, during the earlier, hardest working days of his career. Doctors tell us we should sleep eight hours.

The custom of sleeping is as ancient as time, yet beds, as we know them, are of comparatively recent vintage. Originally, a bed consisted of merely a hollowed out place in the earth. With the development of civilization came the inevitable desire for greater comfort. Egyptians were probably the first to sleep in elevated bedsteads. They even had mattresses made from drie rushes

sewn into cloth coverings. The Romans copied their bed styles from the Greeks who had open couches, with mattresses of feathers or wool. In turn the Romans introduced the first real beds into England.

So, in step with the slow progress of mankind have come improvements in sleeping accommodations, and the simple article of furniture we all know of as a bed has emerged. Today the manufacture of beds and mattresses comprises one of Canada's major industries. In 1938 over four and one-half million dollars worth of bedroom furniture was manufactured. By far the largest output was from Ontario and Quebec, with British Columbia next in order, and the three Prairie Provinces trailing.

No. 333 --- Wed. Aug. 23, 1940 --- Eiderdown

One of the latest in Canadian industries and about which the average person knows comparatively little or nothing is the commercial production of eiderdown.

Since its inception in 1933, the industry has made steady progress and the quantity of cleaned eiderdown marketed annually has increased five times.

Eiderdown comes from the breast of the eider duck. Therefore it is of utmost importance that these birds be conserved. Bird sanctuaries and strict law measures are being enforced with that end in view. The eider duck is one of the largest of our ducks. The male is a mass of contrasting black and white and delicate tints of green and wine, while the female is coloured in even shades of brown. Their bills are mostly stout with much plumage at the base. The birds build their nests and line them with thick, soft coverings of down from their bodies. The eggs are laid on this fluffy mass and are carefully covered and kept warm when the parent leaves the nest.

It is during the period of incubation of the eggs, usually from the end of May to middle of July, that the down is taken. Great care must be exercised however, so as not to interfere with the final hatching of the eggs, or to cause the duck to abandon the nest. The down taken is gradually replaced by the duck and when the young have left, the remainder is gathered, cleaned of bits of straw and moss and made ready for sale and use.

Eider ducks are not to be found in all parts of Canada. As a matter of fact, they usually confine their haunts to the extreme northerly regions, in the Yukon and at the mouth of the MacKenzie River. There is one record of the bird on Lake Manitoba and reports state it has been seen on the Washington and B.C. coast. Suitable coastal islands on which the birds are accustomed to nest are leased from the Province of Quebec by residents of the Gulf Shore area. The lease is for a period of five years and a permit under the Migratory Birds Convention Act authorizes them to possess and sell eiderdown taken from nests on the leased land.

The establishment of this new industry prevents the waste of a valuable natural resource and puts within reach of the consumer a material that is unsurpassed for lightness, durability and capacity for retaining heat.

No. 334 -- Thurs. Aug. 29, 1940 -- The Worm Turned

Probably the ardent fisherman is more intimately acquainted with worms than the average person, but we'll wager even he will be surprised to learn that they are capable of emitting an audible sound, and that they have been credited with possessing a surprising amount of intelligence.

Although most worms look alike to us, experts claim there are about 800 different species, only 90 of which are to be found in North America. The majority live in the soil, preferring land containing considerable organic matter and plenty of moisture. They swallow great quantities of earth and digest the organic matter, churning up the soil and mixing it with half decaying leaves and roots, thus maintaining the fertility of the land and stimulating plant growth.

The anatomy of a worm is interesting and is no doubt considered quite intriguing by many a lover of bugs and grubs. Worms have no teeth, no eyes and no feet. Yet they can eat, are sensitive to light and vibrations, and make pretty fair time, all things considered. Their mouth consists of a simple sucking mechanism with powerful muscles. They crawl by means of the alternate expansion and contraction of the muscular rings encircling their bodies, aided by rows of short, stiff bristles along the sides.

Each earthworm is both male and female and produces eggs. The young emerge from the egg capsules fully formed and mature in about three or four months. They often occur in such large numbers that they make the surface of the ground appear lumpy and uneven.

Besides the "early bird", domestic fowl, toads and moles relish earthworms, and it is not often that steps must be taken to control worms in the garden. However, if it is found that they are affecting the root systems of plants or marring the appearance of the lawn, a sprinkling of lime solution has been found very beneficial.

Thus we see that no matter how many mechanical contrivances man invents, there will always be a place for the common earthworm in the scheme of things.

No. 335 -- Fri. Aug. 30, 1940 -- Pale Western Cutworm in 1941

The pale western cutworm outlook for 1941 has recently been appraised officially. The decrease in area infested by this pest in Western Canada culminated in 1940 when there was little crop loss. In many areas, however, there has been a lack of rainfall during a great proportion of the period of activity of the larvae which will probably result in an increase in the numbers of this insect in 1941.

The general area of probable pale western cutworm infestation, therefore, in prospect for 1941 would be enclosed by a line which starts at the junction of the Alberta - Saskatchewan border and the International Boundary and runs northeastward through Hazenmore, Gravelbourg, Avenlea, Francis, Wolseley and Lemberg, turning north and then west just south of the Melville - Nokomis line of the C.N.R. through Nokomis, Dana and Hafford to Mervin, crossing the Alberta-Saskatchewan border a few miles north of Lloydminster. Here it turns southwestward, running through

Kitscoty, Irma, Lougheed, Alliance, Halkirk, Big Valley and Crossfield to Cochrane, southward along the foothills and westward up the Crow's Nest Pass to Cowley and then southeastward south of Cardston and Woolford to meet the International Boundary at Coutts.

Infestations and crop losses of varying intensity may occur anywhere within this area. It is expected that in two portions of this area the infestation will be more general and severe than in the rest. One of these is expected to centre on Indian Head, including probably Abernethy, Balcarres, Qu'Appelle and the area west of Sintaluta. The other, a more extensive area, can be roughly enclosed by a line running eastward from the Alberta - Saskatchewan boundary near Hilda to Portreeve and Lancer, then north and west, crossing the Interprovincial Boundary south of Alsak and continuing through Monitor to Lure and Fleet.

Here the line turns south and west through Morrin and Beiseker to Calgary and southeastward through High River, Nanton and Magrath, straight east from Magrath through New Dayton and then north through Etzikom to Whitla, angling northeastward through Howell to Hilda. Within these two special areas reasonably severe general infestations may be expected and serious crop losses may occur if the 1941 season is dry.

The pale western cutworm can be controlled only by cultural means. Fields may be kept free from infestation or if known to be infested may be freed of the insects by the cultural practices which result in their starvation.

The eggs of this insect are laid in loose, dusty soil in August and early September and even a slight crust will prevent egg-laying. Therefore, all summer-fallow work should be completed by the end of July and the field left untouched, and any crust formed by showers should be left unbroken until the middle of September. As harvesting operations break the soil crust, stubble land is very apt to be infested, and in an area where pale western cutworms are expected to be present stubble land should be summer-fallowed the following year. If for any reason the crust control cannot be carried out and land is known to be infested due to faulty culture or drift soil carrying eggs to it from an infested field, or other cause, the cutworms in the field can be destroyed by starvation. This is brought about by delaying spring cultivation until weeds (other than stink-weed) and volunteer grain are from one to two inches above the surface of the ground. At this time the whole field should be thoroughly cultivated leaving the soil "black", and seeding should take place only after a delay of ten days from the time the cultivation was completed.

No. 336 --- Sat. Aug. 31, 1940 --- How Britain Keeps Down Food Prices

Most of Great Britain's essential foodstuffs and raw materials are now controlled by the Government. The result is that food in Great Britain is cheap and abundant.

Controlled foodstuffs include bacon and ham, butter and cheese, imported eggs, condensed milk, cereals and cereal products, fish and meat, canned fish, livestock, all animal feeding stuffs, oil and fats, potatoes, sugar, tea and dried fruits.

Since the outbreak of war the British Government has become the largest food

importer in the world. Business men who previously dealt in these products are giving their services to the British Government as expert advisers, many of them without remuneration.

The British Government, fully alive to the problems of wartime shipping, lost no time in placing food contracts in the British Dominions and Colonies on the outbreak of war.

The entire West African cocoa crop, for instance, was bought up by the British Government, and wheat was purchased at the lowest price for 300 years.

The whole exportable butter surplus of New Zealand and Australia was bought up, and one full year's crop of West Indian sugar was bought in advance at pre-war prices.

Thanks to the efficiency with which the British Navy protects the world's trade routes, 99 per cent of all the food supplies shipped to Great Britain from other countries have reached these shores safely.

Prices - wholesale, retail and commodity - in practically every country in the world have risen since the outbreak of war. Since the beginning of 1940, however, there has been a new all-round level of stability in Great Britain. Indeed, in March this year, food prices in Great Britain fell 3.5 per cent, compared with February. This shows how successful the British Government has been in keeping down prices.

According to the Parliamentary Secretary to the Ministry of Food, the British Government is spending between £3,000 and £4,000 a week to keep the price of flour at its present level, while £300,000 a week is spent on controlling the price of meat. The control of milk prices costs the Ministry £250,000 a week.

In all, the British Government is spending £1,115,000 a week to keep the price of food within the reach of all sections of the community. The result is that the 2 lb. loaf is sold to the public at 8d., instead of 10½d. - which would be the market price without control. Milk is sold at 7d. a quart, instead of 8d., and meat at 2d. a lb. below what would otherwise be the prevailing price.

The British Government's aim is to protect the poorer classes. It is not enough that there should be plenty, as there is. What the British Government is ensuring is that food shall be obtainable at a price within the reach of all. There are no food queues in Great Britain.

The contracts made by the Ministry of Food cover, for instance, all West Africa's production of oil for conversion into margarine. This, strengthened with A and D vitamins, provides a complete butter substitute at half the cost of butter. Again, 88 per cent of New Zealand's meat supplies are reserved for Great Britain, and the whole of Turkey's output of sultanas, raisins and dried fruit have been bought for British consumption.

In Great Britain itself, the Ministry of Food is operating on a scale far vaster than that known in the last war. Under the existing system the small trader can carry on with his job under Government control. Local food committees - 2,000 of them - have been set up in every small town and borough. They work

under the guidance of a wholesale committee which obtains its supplies from the Government.

Only three articles of food - meat, sugar and butter - are rationed in Great Britain. There are no fewer than 70,000 retailers handling consumers' ration coupons, which are passed on to the wholesalers, who, in turn, hand them to the Ministry of Food. In this way the Ministry secures an equitable distribution of rationed foods to all the population of Great Britain, while in the case of both rationed and unrationed foods prices are kept within the reach of all.

In the meantime large surpluses of sugar, butter, oils, tea, meat, and tinned foods are accumulating in Great Britain, where they are stored all over the country. Thus, though war conditions may entail some delays, the British public is assured of plentiful supplies of its staple foods at fair prices.

Mr. Doz
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DEPARTMENT OF
TRADE AND COMMERCE



CANADA

A FACT A DAY ABOUT CANADA

FROM THE

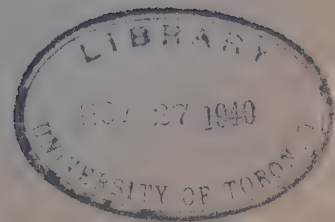
DOMINION BUREAU OF STATISTICS

SEPTEMBER 1940

SIXTH SERIES

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James Muir,

Editor.

from the

Dominion Bureau of Statistics

No. 337 -- Mon. Sept. 1, 1940 -- A Canadian Netherlands Regiment

It is officially announced that Col. the Hon. J. L. Ralston, Minister of Defence, has approved the proposal to raise a Netherlands Infantry Battalion in Canada at the Expense of the Netherlands Government, whose headquarters is at present in England. There are more than 150,000 people of Netherlands origin in Canada, that is, on the father's side only, so there is a good deal more Netherlands blood than that in the Dominion.

The story of the Netherlands is too long to tell here, but there have been one or two incidents in the history of that brave people, which have brought them close to us all and parallel some of the events which have occurred this year.

Nothing is known of the original inhabitants, but about 150 years before the Christian Era, the Batavians came out of Hesse and settled between the Rhine and the Waal, while the Frisians occupied the country north of the Rhine to the Elbe. They were a faithful, open-hearted, chaste and hospitable people, as well as very warlike and brave. The Batavi became famous volunteer soldiers in the armies of Julius Caesar. They were mainly cavalry.

Towards the close of the third century began the inroads of the Franks, followed by the Saxons and other races and in the fifth century the Batavi had ceased to exist as a distinct people. At the end of the eighth century all the Low Countries had submitted to Charlemagne, who built a palace at Nymegen on the Waal,

In 1384 the country of Flanders passed, through marriage, to the Duke of Burgundy, whose grandson, Philip the Good, made it his special life-effort to form the North into a powerful kingdom. He bought Namur, inherited Brabant and Limburg and forced Jacoba of Bavaria to resign Holland and Zeeland. Charles V of Spain, as heir of the House of Burgundy, inherited and united the North under his sceptre and the country attained great prosperity, through the encouragements which he gave to shipping and commerce.

Following his death in 1555, the Netherlands entered desperate days. His son, Philip II, by his harsh government and persecution of the Reformers, excited the North to rebellion which, after a struggle of eighty years, became an independent republic. The founder of the independence of the North was William of Nassau, Prince of Orange, called in history William the Silent. He freely sacrificed his own property and put forth every effort to unite the people in resisting the Spanish Yoke. Finally in 1609 the independence of the United Provinces was virtually acknowledged by the Spanish King, when he signed a twelve years' armistice. However, the struggle was renewed and carried on till 1648, when all the powers acknowledged the independence of the United Provinces, while the Belgic Provinces, divided among themselves, remained submissive to Spain.

Prince William of Orange the Silent did not live to see the fruition of his work. He was murdered by a religious fanatic, who hoped for a great reward.

No. 338 -- Tues. Sept. 2, 1940 -- Progress of the Netherlands

With the 17th century, the Netherlands began to advance in power and wealth, their ships visiting all parts of the world. The United Provinces were presided over by the Princes of Orange till the troubles at the end of the 18th century began the long European war, which the Battle of Waterloo brought to a close. The National Convention of France, having declared war against Great Britain and the Stadholder of Holland, French armies overran Belgium and, being welcomed by the so-called patriots of the United Provinces -- the Fifth Column of that period -- William V and his family were obliged to escape to England in a fishing junk and the French rule began.

The United Provinces in that year, 1795, became the Batavian Republic, paying about \$42,000,000 for a French army of 25,000 men, besides giving up important parts of the country along the Belgian frontier.

After several changes, Louis Bonaparte in 1806 was appointed King of Holland, but, four years later, was obliged to resign because he refused to be a mere tool in the hands of the French Emperor. Holland was then added to the Empire.

The fall of Napoleon Bonaparte, and dismemberment of the French Empire, led to the recall of the Orange family and the formation of a new Kingdom formed of the Northern and Southern Provinces, which in 1830 was broken up by the secession of Belgium. The nation became prosperous and the East India colonies, which were a burden in the earlier years of the Kingdom, became a source of great profit. There were possessions also in the West Indies.

William III, King of England, was the posthumous son of William II of Orange, and Mary, eldest daughter of Charles I, who was executed in 1649. The alliance of his family with the Stuarts excited the jealousy of Oliver Cromwell and by his influence the young prince and his descendants were declared to be excluded from the Stadholdership of the United Provinces. The restoration of the Stuarts, however, improved his prospects and, after the murder of De Witt, he was chosen Stadholder. The view of the Netherlands seemed inevitable, but by the wisdom and determination of William, the contest with France was ended. William attained great fame. He married his cousin, the Princess Mary, daughter of James II.

And now Queen Wilhelmina of the Netherlands, Queen since she was a little girl of ten in 1890, has had to escape to England from the murderous Hitler. The heir-apparent to the throne, Princess Juliana, is in Canada with her two little daughters. Her husband is with the Netherlands troops in England.

The Netherlands is about half the size of New Brunswick but it has a population of over eight and a half million people. The seat of government is The Hague and the chief city is Amsterdam, with a population somewhat greater than that of Toronto. The relationship between Canada and the Netherlands has always been very cordial.

No. 339 -- Wed. Sept 3, 1940 -- Record Nickel Output

Canada's production of nickel last year was the greatest in the history of the industry, amounting to 226,105,865 pounds compared with 210,572,738 pounds in 1938. The previous record year was 1937, when the output totalled 224,905,046 pounds.

Almost the entire production of Canadian nickel in 1939 originated in the nickel-copper ores of the Sudbury district, Ontario, and represented the recovery of the metal in the refined state, in oxides and salts, and in matte exported. In addition to the nickel obtained from the Sudbury ores, a relatively small quantity of the metal is recovered annually in the treatment of silver-cobalt ores from the Cobalt district of Northern Ontario. Copper recovered in 1939 from nickel-copper ores totalled 328,144,517 pounds, or 53.9 per cent of the total quantity of new copper produced from all sources in the Dominion during the year. The nickel-bearing deposits of the Sudbury area also contain relatively high values in platinum metals which are recovered in refining operations.

In addition to production of nickel, copper, and the platinum metals, there is an important recovery from these ores of the associated metals, silver, gold, selenium and tellurium. Sulphur for the manufacture of sulphuric acid is salvaged in the gaseous state from waste smelter gases. Silver recovered by this industry in 1939 amounted to 2,496,632 fine ounces, while the production of gold from the nickel-bearing ores during the same period totalled 77,094 fine ounces. In 1926 the corresponding production of gold from these same ores was only 4,447 fine ounces.

Two companies operate both mines and metallurgical plants in the Sudbury area. The International Nickel Company of Canada Limited conducts smelting operations at Copper Cliff and Coniston, Ont., while the Falconbridge Nickel Mines Limited smelts its ores at the Falconbridge mine located a few miles east of the town of Sudbury.

This company treated its matte in a refinery located at Kristiansand, Norway, until the invasion of that country by Germany in 1940. Since then arrangements have been made with the International Nickel Company of Canada Limited for refining treatment.

The relatively small amount of nickel oxide produced at Deloro, Ont., is recovered from silver-cobalt-nickel-arsenic ores mined in Northern Ontario. Smelter matte made by the International Nickel Company of Canada is treated in plants located at Clydach, Wales; Huntington, West Virginia; and Port Colborne and Copper Cliff, Ont. Converter copper made by International Nickel is electrolytically refined at Copper Cliff.

No. 340 -- Thurs. Sept 4, 1940 -- For National Defence

What are the materials essential to national defence? In other words, what are the materials which a producing country would not export to a warring country? The United States has published a list which will give some idea of the problem.

Aluminum. -- Metallic aluminum and alloys, crude, semi-fabricated and scrap, containing in excess of 10 per cent. aluminum.

Antimony. -- Antimony ores, concentrates, metal alloys in crude and semi-fabricated form, and antimony compounds.

Asbestos. -- Asbestos, crude and semi-fabricated, if chiefly of fibres of three-quarters of an inch or more in length.

Chromium. -- Chromite, metallic chromium, chromium-bearing alloys containing in excess of 10 per cent. chromium, chromite refractories, and chromium compounds.

Flax. — Flax and cloth containing flax, except when manufactured into wearing apparel or household goods.

Graphite. — Flake graphite and graphite crucibles, retorts and stoppers.

Hides. — Cattle and horse.

Manganese. — Manganese ores or concentrates containing 45 per cent. or more of metallic manganese, and alloys containing in excess of 10 per cent. metallic manganese.

Magnesium. — Metallic magnesium and alloys, crude, semi-fabricated, and scrap, containing in excess of 10 per cent. magnesium.

Mercury. — Mercury ores and concentrates and metallic mercury.

Mica. — Mica blocks, sheets and splittings, and semi-fabricated forms produced therefrom.

Molybdenum. — Molybdenum ores, concentrates, metal alloys containing in excess of 10 per cent. molybdenum and molybdenum compounds.

Platinum. — Platinum group metals and alloys.

Quartz Crystals. — Piezo, electric and optical.

Quinine. — Quinine barks, cinchona or others from which quinine may be extracted, and quinine sulphate.

Rubber. — All forms and types of crude rubber, reclaimed rubber, and scrap rubber containing in excess of 5 per cent. rubber.

Silk. — Raw silk and waste silk.

Tin. — Tin metal, alloys containing in excess of 5 per cent. tin in crude and semi-fabricated form; tin plate scrap and other scrap materials plated with metal containing tin; and other tin or tin alloy scrap and wastes.

Toluol. — Toluol and light oil resulting from the distillation of coal tar.

Tungsten. — Tungsten ores and concentrates, metal alloys containing in excess of 5 per cent. tungsten and tungsten compounds.

Vanadium. — Vanadium ores and concentrates; alloys containing in excess of 10 per cent. vanadium and vanadium compounds.

Wool. — Wool in the grease, or washed, wool scoured on the skin, or when pulled or sheared.

Except as otherwise indicated, the terms used in the regulations do not include completely fabricated articles or materials which are ready for ultimate consumption.

Aviation motor fuel, aviation lubricating oil, tetra ethyl lead, and iron and steel scrap are subjected to export licenses

No. 341 -- Fri. Sept. 5, 1940 -- Natural Gas

Canada has great resources in Natural Gas. There are wells in New Brunswick, Ontario, Manitoba, Saskatchewan and Alberta, but by far the greatest production is in Alberta. The latest available figures show Canadian production of approximately 34 billion cubic feet, of which 22 billion were in Alberta, Ontario next with 11 billion, New Brunswick produced more than half a billion, Saskatchewan 90 million and Manitoba 600,000

The largest natural gas producing area in Canada is the Turner Valley field, about 35 miles Southwest of Calgary. The consumption of Turner Valley gas for industrial and domestic use was over 15 billion cubic feet, with about 23,000 consumers in Calgary, Lethbridge and the district. Some 2,500 consumers were served from the Medicine Hat field.

Cost of natural gas to the consumer varies greatly but the lowest charge appears to be at Medicine Hat, Alberta, at 23.7 cents per 1,000 cubic feet, and runs up to 81.40 at London and Windsor in Ontario. At Moncton, New Brunswick, 50 cents was the charge.

An idea of the extent of the supply system may be gathered from the length of main pipe lines. The latest available figures show about 2,790 actual miles of gathering and transmission pipes, along with over 2,500 distribution lines.

The following appeared in a recent Bureau report:

"Manufacturers of gas appliances continue to improve their wares both along lines of convenience, efficiency and in colour schemes. A new gas range is now offered that fulfils any and every task that the most particular housewife might demand. Other than new and improved labour-saving devices and perfected insulation, a pressure regulator and filter has been added which insures against imperfect combustion resulting from pressure variations. With the assurance that no carbon monoxide can be formed from partially burned gases, the smoke pipe has been removed from most modern gas stoves. Another appliance that has reached maturity of design and has passed trials in the hands of the public is the gas refrigerator. It operates on either gas or kerosene and has no moving parts. Further advances have been made in the design of moderate price water heaters and furnace burners."

No. 342 -- Sat. Sept. 6, 1940 -- Indians Contribute to War Effort

Indians in practically every part of Canada are contributing generously to Canada's war effort, their donations taking many forms. Reports by returning treaty-paying parties and by Indian agents tell of how whole-heartedly the Indians are behind the Dominion in the conduct of the war. Not only have the Indians been anxious to turn over substantial sums from band funds for the purchase of war bonds and certificates and for other war services but they have dipped deeply into their meagre personal funds to help the Red Cross, the Salvation Army, and the care of evacuated children. Records maintained in the Indian Affairs Branch show that donations made to date to war services total nearly \$3,000. This figure represents only a small part of the contributions made as press and other reports indicate that many subscriptions have gone directly to the local service organizations, while donations of furs, clothing, and other articles have not been given a monetary value.

A treaty-paying officer, who recently returned from northern Manitoba reported a donation of \$260.85 by the bands in the Norway House Agency. The extent of the personal sacrifice made by the Indians in these bands to gather such a sum will be better understood when it is remembered that practically the only money seen by these Indians is at treaty-paying time. Each Indian receives \$5 and undoubtedly a goodly part of each treaty payment went to make up this donation. Indians from the Island Lake, Gods Lake, Oxford House, Cross Lake, and Norway House bands contributed.

Other contributions of which the Department has been advised or is handling include those from various bands in Ontario, Saskatchewan, and Alberta. The Red Cross is the most popular object to which the Indians donate. The Six Nations Indians at Brantford made the handsome donation of \$1,000 to this worthy cause, and the Blackfoot Band in southern Alberta made a contribution of \$1 per head of the band, the Red Cross benefiting to the extent of \$850. Other donations included, Mississaugas of the Credit (Brantford) \$150; Rice Lake Band (Peterborough) Red Cross, \$100, Salvation Army, \$100; Parry Island Band, Parry Sound, \$5; Tyendinaga Band, Belleville, \$100; Cape Croker Band, Bruce Peninsula, \$100; Ochapowace Band, Regina, Sask., \$17.50; Couchiching Band, Fort Frances, Ont., \$69; Cat Lake Band, Northern Ontario, \$12.

Canadian Indians gave generously of their man power in the first Great War and in the present struggle they are again well represented in units serving overseas and at home. On many of the reserves Indian women refuse to be outdone by their menfolk and are entering into the work of the various war services with enthusiasm.

No. 343 Sun. Sept. 7, 1940 Before the Morning Watch

Canadian sailors are in the North Sea, playing a heroic part in the struggle against the hordes of Hitler. The British Ministry of Information sends a story which reveals something of the hard task they and others are performing so nobly.

The summer dusk deepened slowly over the North Sea as the destroyer flotilla reached its patrol area. In an overcast sky a bar of smoky orange light held out for a while against the darkness, and faded at last. The long low shapes of the destroyers glided through the night like grey wolves whose hour for hunting had come, and presently merged into the darkness.

In the half light the destroyers had gone to action stations. Their crews had done it all so often that they gave the impression of an almost mechanical efficiency. The orders, conveyed in peace time by pipe and shouting, were given in undertones, almost superfluously, and the reports when they reached the bridges - such and such a gun ready and closed up - searchlights and torpedo tubes crews at their stations - were made and acknowledged in undertones, pitched just loud enough to overcome the drone of the fan exhausts and the sound of the sea. "Very good," came the low answer to each report.

It was in truth very good. The flotilla, the ships themselves, every bit of machinery, every weapon, every officer, and man, the whole co-ordination of discipline and efficiency and experience, seemed to lock together like a breech-block slammed home.

On the bridge of the flotilla leader the captain levered himself on to a high wooden seat abaft the compass, turned up the collar of his coat and stuck an empty pipe in his mouth. All about him were the forms of men motionless in the darkness. He was conscious of them not so much as individuals but as functions, parts of himself as it were. It was as if he were simultaneously staring through half-a-dozen pairs of eyes into the darkness, listening with other ears to the sounds of the sea, calculating the set of currents, reading a tiny beam of light flickering a message on the bridge of the next astern; and at the same time he was estimating his fuel requirements when he returned to harbour, wishing he could smoke, and hoping he could somehow keep at bay for the next six hours a longing for sleep. For the first few hours nobody talked very much. The sky held a pale diffused light, with patches of stars alternately obscured and revealed in the shifting ceiling of thin clouds. This light sufficed to show the dark shadows of the waves as they curved and broke in gleams of grey foam. Occasionally a look-out gave tongue. Once a floating mine was reported and avoided, and the warning flashed astern to the flotilla. Once the dark outlines of a convoy glided past, under guard of its escorts, silent and dark as ghost ships.

At midnight fannies of hot cocoa arrived from the galley. Men stirred themselves and drank, grateful for the warmth of the thick sweet brew, and lapsed into their thoughts again.

The First Lieutenant unfastened the belt of his goatskin coat and pulled a biscuit out of his pocket. He stood leaning against No. 3 gun nibbling the biscuit and thinking about his goatskin coat. It was the type of garment worn by Palestine shepherds and he had bought it at Alexandria. It smelt like nothing on earth when he bought it, but he hung it in the sun and the wind on board his destroyer "up the straits" and that made it all right. Shepherds had probably worn coats like that in the time of Christ, guarding their flocks from wolves on the bleak hills of Palestine. He felt that there was some sort of connection between him and the shepherds although it was a far cry from Palestine to the North Sea. Anyhow they both had much the same sort of job and they were both wearing the same sort of coat, and it was a good coat for keeping watch in, once you got the smell of goat out of it.

The loader of the foremost gun had toothache. He'd been a fool to drink hot cocoa because that made it worse. He wanted to bang his head against the gun shield. He wondered how anybody could be unhappy who hadn't got toothache. The world was just composed of two lots of people, those who had toothache and those who hadn't. The ones who hadn't ought to go about dancing and bashing cymbals together like the Salvation Army and shouting "I haven't got toothache! Hurrah! I haven't got toothache! Hallelujah!" Most people didn't know when they were well off, and that was a fact. He wondered what the captain would say if the ship's company started beating tambourines and shouting "Hurrah!" because they hadn't got toothache. He wished they would go into action and then perhaps a shell would come along and blow his head off. That was about the only thing that would cure him.

The second hand of the signal watch was thinking about his bed at home. His home was a farm house in Hampshire. There was lavender growing in the front garden. His mother dried the flowers and put them in muslin bags in her linen cupboard. His pillow and the sheets smelt faintly of lavender. A down pillow. Your head sank into it and the scent of lavender went over you in a soft wave. He tried to stop thinking about it, nodding where he stood. He thought of waking up in the

morning instead, on the first day of his leave. His mother bringing him a cup of tea, and the noises of the farm coming through the window. The clang of a milk pail. The cock crowing. Solomon, his name was ... The Chief Yeoman stuck him in the ribs with his elbow, "Come on - keep your eyes skinned. You're half asleep."

The light in the sky strengthened imperceptibly. The wind blew chillier. The shadowy forms on the bridge became individuals with features and identities, tired men in need of a shave. Cups of cocoa were passed round again. Eyes were raised to the sky. The captain filled and lit his pipe. "Keep a good lookout overhead", he said, "This is Heinkel time - just before the morning watch."

No. 344 --- Mon. Sept. 8, 1940 --- Reindeer Herd

With a fawn increase of 1,486 head, the largest yet recorded, Canada's main reindeer herd now comprises more than 5,000 animals, according to reports of the annual round-up. Each year since the original herd of 2,370 was delivered from Alaska in 1935, a gradual increase has been recorded in the number of fawns born. This year's round-up was completed in four days, the entire herd being put through the corrals, examined, counted and classified. Animals surplus to the requirements of the herd were selected for slaughter later in the year when the meat is prime. The annual round-up of the government herd on the Reindeer Reserve is staged on the summer range on Richards Island, a short distance off the Arctic Coast.

A secondary reindeer herd under government supervision is located in the vicinity of Anderson River about 150 miles east of the Reindeer Reserve. This smaller herd was started in December, 1938, when about 950 deer were separated from the main herd and placed under native management with a government supervisor. Because of the absence of regular corralling facilities a round-up of the native herd is not made on a scheduled date, but when a favourable opportunity occurs temporary barriers are erected and the animals are then counted and marked. The first round-up of the native herd was held in August, 1939, when the animals numbered about 1,200 and with the fawn increase in 1940 it is estimated that this herd now comprises approximately 1,600 head.

Arrangements are being made to establish a second native herd in the Horton River area, about 100 miles east of the first native herd. These animals will be separated from the main herd in November, and will be herded overland to their new range, where under government supervision they will be entrusted to native management. The establishment of this second native herd is another step in Canada's plan to establish reindeer ranching among the Eskimo population.

No. 345 --- Tues. Sept. 9, 1940 --- Nut Trees in Eastern Canada

At present no hope of success for nut growing on a commercial scale in most parts of Eastern Canada can be offered, says the Central Experimental Farm. Unfortunately, all nuts sufficiently hardy to grow generally in Eastern Canada are too thick shelled to be able to create a demand on the market in competition with the southern pecans, almonds and walnuts that flood the stores at Christmas time. It is true that the Carpathian strain of the "English" walnut has proved hardier than varieties previously tried but it is doubtful whether it will prove

entirely hardy over a period of years in any but the districts with a comparatively mild climate.

Yet it is agreed among the most ardent nut enthusiasts that it is a source of great satisfaction to have a well grown nut tree or two around the farm for home use. They will also prove a good investment for the grandchildren in the form of lumber. There is something about a nut tree that appeals to most persons.

For flavour of course the native butternut, hickory and black walnut cannot be beaten. They are well worth the occasional hammered thumb and although beechnuts and hazels are small and hard to open there is a return of childish delight that repays for the effort.

One of the advantages in growing nut trees is that they thrive on what might be considered as waste land. Rough grassland on the side of a ravine where the soil is deep and well drained, where the rays of the summer sun are trapped and the cold north wind is kept out by the slope of the hill or the shelter of bush, just suits them. Such land should not be plowed or it will be spoiled by erosion.

Contrary to general opinion, nut trees grow quite rapidly, with the exception of the hickory. In order to make good growth, however, the young trees must be freed from the competition of the grass roots by having a clean circle of cultivated earth around them early in the season. When the hay is cut from the surrounding land, a good covering of it, 9" - 12" deep, should be placed around the tree over the cultivated area. This smothers weeds, conserves moisture and keeps the roots cool. Growth may be slowed up and hardened off in the late summer by applying a light dressing of lime and hardwood ashes to the soil around the trees.

Nut trees native to Canada are not subject to many diseases or attacks from insects so that regular spraying is not necessary. Squirrels and blue jays frequently become a nuisance that must be guarded against, but the most serious danger is from mice girdling the young trees in winter. Wire mesh screen should be wrapped around the tree trunk from the ground to a height of two or three feet each fall to guard against this. Occasional corrective pruning to keep a well shaped tree free from bad crotches is all that is needed late in the fall.

All the native nuts can be grown from seed planted in the fall, or mixed with moist peat and sand and stored at a temperature around 40 degrees Fahrenheit until planted in spring. They should always be protected from squirrels. For good quality nuts and early bearing, however, it is advisable to purchase grafted trees of known variety. When grafted trees are planted it should be remembered to plant more than one variety so as to insure cross pollination.

The common native nuts are the black walnut (of which Ohio and Ten Eyke are good named varieties), the butternut and the shag-bark hickory. There is a good hardy hickory hybrid called Laneyi and the cross between hickory and pecan called hickan seems to grow well near Toronto. None of the European filberts is sufficiently hardy to do well but the native hazels are perfectly tough and two named varieties Rush and Winkler are worth growing.

The native sweet chestnut has unfortunately fallen prey to a fatal blight which renders planting useless. However, the Chinese and Japanese chestnuts appear to be both hardy and resistant to the disease. Another Japanese importation which seems to thrive well is the Japanese heart nut, a cousin of the Canadian black walnut which is more easily cracked but not of so rich a flavour.

In order that the term "hardy" may not be misleading, it should be stated that all the nuts mentioned have about the same range as the McIntosh apple and should not be planted where climate will not permit growth of this variety.

No. 346 -- Wed. Sept. 10, 1940 -- Farm Cash Income

Cash income received by farmers from the sale of principal farm products during the period January to July 1940 was 30 per cent greater than for the corresponding period of 1939. Each month from January to July of 1940 showed gains over the corresponding months of 1939, with the greatest increase occurring in July.

Practically all of the major sources of income showed increases. Income from the 1939 wheat crop received from deliveries made in the months of January to July 1940 was 85 per cent higher than income from this source during the corresponding months of 1939. Most of this increase in income took place in the Prairie Provinces where deliveries during the months of May, June and July 1940 were double those of the same period last year. Income from flax was nearly four times as great in the first seven months of 1940 due to higher prices and much higher deliveries to elevators.

Cash received from the sale of meat animals during the first seven months of 1940 was approximately 23 per cent greater than in the same period of 1939. The greatest increase occurred in income from hogs which was 41 per cent higher. The much greater volume of hog marketings was responsible for this increase, although prices were slightly lower than in 1939. On the other hand, income from cattle was only about 7 per cent greater. An appreciable rise in cattle prices, due to the short supply and increased demand, more than offset a decline in output. Income from sheep and lambs was up slightly.

Higher prices received for the 1940 wool clip brought the income from the 1940 shearings to more than twice that of last year. Prices ranged from 50 to 100 per cent higher.

Higher prices and somewhat larger production and marketings of eggs resulted in an increase in returns, particularly during the months of May, June and July. Income from dairy products has also increased with a gain of 30 per cent in receipts from cheese and 11 per cent from butterfat. Slightly higher average butterfat prices and slight increases in production were responsible for this increase. Fluid milk producers have likewise had an increase in income of between 5 and 10 per cent as a result of somewhat larger sales and slightly higher prices.

It is not likely that income during the last five months of 1940 will show as great an increase as occurred during the first seven months.

No. 347 -- Thurs. Sept 11, 1940 -- Seneca Root

Next summer when you are considering a part time job to make a little pocket money, why not give seneca picking a try? Probably that is one line of business which you had not thought of entering, or, what is more likely, you did not even know it existed.

Well, it's nice work if you can do it. But, you need perseverance and lots of it. Usually the task is left to the patient, untiring Indian and as a rule he makes it pay. There is a ready market for seneca root and as it is one crop that rarely fails, there is an abundance of the plant year in and year out.

There are over 1,450 species of seneca, but only around 70 of them are to be found in North America. The plant in these parts is a small one, with bright blue flowers and brown bark. The season is long, lasting almost the entire summer and the Indians make the most of it. Whole families go camping during the summer and spend their time digging. We learn from one small town located in northern Alberta that with prices around 12 per cents a pound for seneca, some Indians net as high as \$2.50 a day from their labours. Years ago prices soared around 50 cents a pound for green seneca but medicine manufacturers discovered other ingredients and prices dropped.

Most Indians take the root to market while it is green, as it shrinks to less than half its weight when dried. Local butchers buy sometimes as much as 5,000 pounds a day, sell it to the fur buyers who take it to the city. The dried seneca root is used mainly in making cough syrup, but the Indians claim it has dozens of uses, including a cure for snake bites.

Over half the seneca marketed in the West goes to China and the rest to eastern Canada and the United States.

No. 348 -- Fri. Sept. 12, 1940 -- B. C. Fishermen

British Columbia fishermen and cannery operators are willing to invest real money to back their confidence in the future development of the fishing industry in the Pacific province. During the fiscal year of 1939-40 construction was started on no less than 192 new fishing craft in various British Columbia boat yards. Many of the craft have already been launched, while others are nearing completion.

The craft ranged in size all the way from 26-foot gill-net boats to a big 80-foot cannery service boat and were built at various points along the coast including Victoria, Vancouver, New Westminster, Skeena, Steveston, and other localities.

In all, construction included, 110 gill-net boats, 37 trolling boats, 20 seining boats, 12 packing boats, 2 trawlers, 2 collector boats, 1 cod fishing boat, 1 gray-fishing boat, 1 ground dragger, 5 halibut boats, and 1 cannery service boat.

Power plants installed in the various craft reflect the personal preferences of their owners and include both gas and diesel. In horse-power rating they range from 12 h.p. to 230 h.p., the latter installed in the 80-foot cannery service boat. Automobile engine conversions were also used in some of the craft.

In some instances cannery companies contracted for the building of fleets of gill-net boats ranging in number from four to ten. A boat of 32-foot design was selected for cod fishing, while a 38-foot craft was constructed for fishing for gray-fish. Gill-netters ranged from designs of 29 to 32 feet, trollers from 34 to 40 feet, and seiners from 40 to 75 feet. Halibut boats favoured a design from 43 to 48 feet with one 70-foot craft built.

No. 349 -- Sat. Sept. 13, 1940 -- Community Pastures

Amongst all the modern movements that have got under way for the improvement of conditions there is one that has perhaps not received the attention of the general public that it deserves. That is community pasturage on the Prairies. However, an incident that occurred recently has occasioned special mention, and so we know now more about it.

Another advance in Prairie Farm Rehabilitation work has been recorded when a consignment of 133 head of cattle from Battle Creek Community Pasture Association of Vidora, Sask., was shipped and sold at the Union Stockyards, Winnipeg. Under a new co-operative marketing plan, a competent livestock salesman appraised both the weight and value of the cattle at the Vidora community pasture corrals, the basis of valuation being the Winnipeg market price. Final settlement was made on the basis of the net returns as related to appraisal value and weight.

The outstanding feature of the new system, as pointed out by the Supervisor of the Land Settlement Branch of the Prairie Farm Rehabilitation Act (P.F.R.A.) is that once the cattle values are appraised, the cattle can be sorted and graded into even loads of butchers, feeders, and stockers, regardless of the individual ownership, thereby greatly enhancing their market appearance and sales value.

In view of the successful handling of this first shipment, it is anticipated that in future no difficulty will be found in financing shipments through the banks, thereby enabling initial payments to be made to the producers at the time of shipment.

There are now 54 P.F.R.A. community pastures in active operation in Saskatchewan and Manitoba, embracing more than 1,000,000 acres of submarginal grass lands, much of which has been reseeded to crested wheat grass.

No. 350 -- Sun. Sept. 14, 1940 -- Consumption of Meats

Here is a report from the Bureau which is of unusual importance because of its influence upon war supplies. It says that the consumption of meats in Canada last year is estimated at 118.9 pounds per capita. This exceeds the consumption in 1938 by slightly more than two pounds. The increased consumption is due in part to increased industrial activity and higher incomes of consumers and in part to a greater production of meat as a result of more adequate feed supplies from the 1938 and 1939 crops.

Pork consumption at 52 pounds per capita was 4.2 pounds greater than in the preceding year. Hog output during 1939 was the second largest on record and despite increased exports of pork, the increase in production was sufficient to allow for a considerable increase in Canadian consumption. Relatively higher prices for beef during the year shifted consumption to pork.

Beef consumption declined from 51.6 pounds in 1938 to 49 pounds in 1939. Although the total output of cattle showed an increase over the previous year, exports of live cattle during 1939 were almost double those of 1938. Consumption of veal rose slightly from 11.8 pounds in 1938 to 12.1 pounds in 1939. The total output of calves was slightly higher than in 1938, but as in the case of cattle,

exports to the United States were also sharply higher.

Consumption of mutton and lamb in 1939 was unchanged from the previous year. A decline in the total output of sheep and lambs was offset by an increase in imports of mutton and lamb.

Consumption of lard during 1939 was estimated at 5.8 pounds per capita which is an increase of nearly $1\frac{1}{2}$ pounds over that of the previous year. The large increase was due to the increased slaughter of hogs in Canada and a decrease in exports from the previous year of 9.3 million pounds.

The total output of meat animals in 1939 was 121.5 per cent of the average output in the five-year period 1926 to 1930, and was 6.2 per cent greater than in 1938. Exports of meat animals and meats in 1939 were 72.9 per cent greater than the 1926 to 1930 average and gained 16.3 per cent over 1938. Imports of all meats were higher in 1939, the index rising from 53.3 in 1938 to 147.2 in 1939. Total consumption of meats was 109.9 per cent of the average consumption from 1926 to 1930, which is the greatest recorded.

It is expected that during the next three or four years consumption of beef will continue to decline. While cattle numbers on farms are increasing, the present tendency is to withhold stock from market for the purpose of building up herds.

No. 351 — Mon. Sept. 15, 1940 — The Horse and the Plough

We all love a horse, much as we like machinery. This inspires some remarks made by the Agriculture Department in writing about the forthcoming international ploughing match which is to be held this fall at St. Thomas, Ontario.

The meeting will be truly representative of modern agriculture as heretofore, and it will be noted that, although more than \$600,000 worth of the latest types of agricultural and domestic time-saving machinery will be shown, the ancient arts connected with the horse and the plough have their own important place. There are the ploughing matches, two horse shows with over 700 fine animals on exhibit, and there are the horse shoeing and horse shoe making competitions.

The horse is still an important factor on the farm. The onrush of a mechanical age has not relegated him to obscurity, nor has it stilled the brawny arm of the farrier-smith, as will be seen when horse shoes are forged and fitted within a time limit of 55 minutes.

From the day the first horse was imported into Canada on June 20, 1647, at Tadoussac, Quebec, horse shoeing has been a Canadian specialty, and no country in the world has supplied more famous horse shoers and harness-horse champion racers than Canada in proportion to population. In short, the Canadian horseman always has had in mind the fifteen points of a good horse laid down by Wynkyn de Worde, the second great printer and assistant to Caxton, in 1496.

De Worde wrote: "a good horse sholde have three propyrtees of a man, three of a woman, three of a foxe, three of a haare, and three of an asse. Of a man, holde, prowde, and hardye; of a woman, fayre-breasted, faire of heere, and easy to move; of a foxe, a fair taylle, short eers, with a good trotte; of a haare, a grate eye, a dry head, and well rennynge; of an asse, a bigge chynn, a flat legge, and a good hoof".

No. 352 -- Tues. Sept. 16, 1940 -- Insect Damage

Unusual reports of damage by insects have been reaching the entomologists of the Government Service. The investigations of these entomologists cover many and varied subjects, comprising insects affecting field and garden crops, fruit and greenhouse crops, forest and shade trees, stored products, live stock, and human beings.

With regard to man and his needs, the reports of insect damage are sometimes very curious. For example, a package of biscuits left at summer cottage at Quyon, Que., during the past season was severely damaged by adult wasps. Although the package was enclosed in cellophane, the wasps easily worked their way through it and devoured irregular sections of the biscuits.

Recently a beetle (*Monochamus*) was brought to the office by a local supply firm which reported that the specimen in question had damaged a lead conduit cable by gnawing entirely through the outer lead sheathing of the cable while the cable was wound on the usual wooden drum.

Every summer, complaints are rife regarding insect intruders in the cottages, particularly of the beetle species. On investigation not long ago, some beetles were found to be the adults of the yellow meal worm, and others were woodland roaches which are common especially in wooded districts.

No. 353 -- Wed. Sept. 17, 1940 -- Hardwood Fuels

At this time of the year when the householder is getting in his winter supply of fuel, the following note regarding hardwood fuels may be found valuable:

The best hardwood fuels are beech, yellow birch, rock elm, hickory, hard maple, and oak. The fair hardwood fuels are ash, white birch, black cherry, red, and white elm, and red, and silver maple. One and one-quarter cords of the best hardwoods are computed to have the same heating value as a ton (2,000 lb.) of anthracite coal, while one and one-half of the fair hardwoods are required to produce the same amount of heat. In the case of light hardwoods, alder, basswood, butternut, and poplar, two cords are needed to equal a ton of coal.

The estimated consumption of firewood in Canada during 1938 was 8,970,832 cords of the value of \$32,441,106. These figures of course are for hard and softwoods combined.

No. 354 -- Thurs. Sept. 18, 1940 -- Maple Syrup Production

Canada's production of maple products in the 1940 season, expressed in terms of syrup, amounted to 3,099,000 gallons, an increase of 506,800 gallons, or 20 per cent, over the 1939 season. It was also 18 per cent higher than the five-year (1934-1938) average of 2,631,400 gallons. Production of maple syrup totalled 2,755,200 gallons and the farm make of maple sugar amounted to 3,437,500 pounds. Ten pounds of maple sugar is equivalent to one gallon of maple syrup. The combined production of maple sugar and syrup in 1940 was valued at \$4,209,300 compared with \$3,443,900 in 1939, an increase of 22 per cent.

The 1940 season was retarded by backward conditions, so that although operations were continued to about the same date as in 1939, the season was considerably shorter than normal. The weather in the Maritime Provinces was generally cool, and runs were of short duration. A heavy snowfall in New Brunswick on April 21 was followed by an excellent run of sap in many places with the result that the season was about a week longer than in the previous year. In Quebec early operations were hampered by deep snow in the bush, particularly in the Eastern Townships and many farmers were unable to tap their trees at the beginning of the season. Although the weather was unseasonable during much of the tapping period, the volume of production was larger, the sugar content of the sap was high, and the syrup generally was of very good quality.

Canada is now the world's largest producer of maple products, and the industry is organized on a sound basis. Standards of quality have been evolved and adopted; stringent pure-food laws have been framed and enacted and a system of registration and inspection developed for their enforcement. The old iron kettle has been largely replaced by modern hygienic evaporators which ensure cleanliness and uniform quality. About 50,000 farmers in Eastern Canada take part in the annual harvest of maple products, which is one of their most profitable woodland crops.

No. 355 --- Fri. Sept 19, 1940 --- Sea Birds Far Inland

Glancing out of the office window this morning over the wide sweep of the Ottawa River, where the Rideau empties into it over the Twin Falls and the Gatineau pours its waters from the high Laurentian Hills, a score or so of seagulls could be seen twisting and turning in the air and occasionally diving into the waters to capture some luckless fish. It is not an usual sight. Seagulls are with us every summer. They raise their young here and late in the season, just as the ice begins to crust the river waters they fly off eastward to the ocean.

Apparently, however, there are not so many seagulls here as at other inland places in Canada, for the National Parks Bureau says:

Tourists travelling over the Thousand Islands International Bridge and visitors to the St. Lawrence Islands National Park are amazed at the wealth of bird life, particularly sea birds, in the region. The international bridge spans the St. Lawrence River between Collins Landing, New York, and Ivy Lea, Ont., and rests in part on two park islands — Georgina and Constance. About two hundred islands may be seen from the bridge, and it is not uncommon to observe flocks of gulls, terns, and other water birds fishing and going through their graceful aeronautics. In the myriad of islands which dot the St. Lawrence between the bridge and Kingston, breeding colonies of gulls and terns and nesting places of many other kinds of birds are found.

Situated about a hundred miles from Ottawa, Canada's capital city, the Thousand Islands International Bridge is a popular avenue of approach to Canada for tourists from the eastern United States. Camping facilities have been provided on several of the islands in St. Lawrence Islands National Park, and these islands may be reached from points along the Canadian side of the river.

Throughout the entire area most of the wild birds, including the gulls and terns, are protected under Dominion or Provincial laws, and to injure them in any way, or to molest them unduly in their breeding colonies, is strictly prohibited at all times.

By the way a very large strange bird was observed flying over the Ottawa River recently. An ornithologist said it probably was an erne, commonly known as the sea-eagle.

No. 356 -- Sat. Sept. 20, 1940 -- Canada and U. S. in Mutual Defence

The good neighbour policy, characteristic of relations between Canada and the United States for long years, was placed on a concrete base in August, when Prime Minister W. L. Mackenzie King and President Franklin D. Roosevelt signed an agreement at Ogdensburg, N.Y., for the mutual defence of both countries.

Exactly two years ago, on that date, President Roosevelt had stated in Toronto: "I give you assurance that the people of the United States will not stand idly by if domination of Canadian soil is threatened by any other Empire".

The practical means for carrying that assurance out were sealed in the agreement reached by the leaders of the two countries forming the northern half of the western hemisphere. Text of the joint statement issued after this historic meeting follows:

"The Prime Minister and the President have discussed the mutual problems of defence in relation to the safety of Canada and the United States.

"It has been agreed that a permanent joint board on defence shall be set up at once by the two countries.

"This permanent joint board on defence shall commence immediate studies relating to sea, land and air problems including personnel and material.

"It will consider in the broad sense the defence of the north half of the Western Hemisphere.

"The permanent joint board on defence will consist of four or five members from each country, most of them from the services. It will meet shortly."

No. 357 -- Sun. Sept 21, 1940 -- Navy Six Times Stronger

The Royal Canadian Navy is now nearly six times stronger than it was a year ago, according to a statement made by Hon. Angus L. MacDonald, Minister of National Defence for the Navy. In inaugurating his press conferences The Minister gave an encouraging report of activities since the start of the war, dwelling on the Navy's expansion, on the high quality of its work performed while seeing service with the Royal Navy and pausing long enough to hit at Nazi planted rumours concerning ship movements.

The Canadian fleet has grown from 15 vessels, a year ago, to 120 vessels now commissioned for active service. During the coming year 95 more ships will swell this total to 215. These include three destroyers. More than 15,000 men are busy in Canadian shipyards pushing the shipbuilding programme ahead of schedule.

The personnel of the Navy has grown to about 10,000 officers and men. More are being trained every day to meet growing needs.

A cablegram from Hon. Vincent Massey, Canadian High Commissioner in London was read by the Minister. It paid high tribute to the units of the Canadian Navy in action with the Royal Navy, noting the British Admiralty's praise for the work of Canadian destroyers in hazardous duties, rescue work and the convoy of ships.

The men of the Canadian Navy serving in units of the Royal Navy and the officers in training in England were singled out for special praise. Over 400 men of the R.C.N. are with the British fleet.

Rumours to the effect that the enemy broadcasts departures of ships and convoys from Canadian ports have never been authenticated. Planted by Nazi agents, these rumours are meant to lull authorities into relaxing censorship rules.

No. 358 -- Mon. Sept. 22, 1940 -- Oyster Production

Oyster Farming is a comparatively new Canadian industry. Begun in 1932, it has not yet reached maturity, but there are about 650 farms producing oysters in Prince Edward Island, while there are others in Nova Scotia, New Brunswick and British Columbia. The total average in Prince Edward Island last year was 2,347 acres as against 110 in 1932.

An official report says: "There has been a great increase in the effort to grow oysters and a corresponding increase in the yield. Even in the Malpeque Bay region, however, where the development started first, more money is being spent than is being received from the oysters sold. The industry can hardly be considered to have reached maturity until the total receipts exceed the total expenditures. With increased production marketing is becoming more important. The final establishment of a stable industry depends on the continued development of economical methods of culture and of adequate markets and marketing methods."

Meanwhile oyster cultivation is also being gradually developed in Nova Scotia---in the Bras d'Or Lake region near Orangedale, and on the Northumberland Strait at Wallace and Malagash--- and investigations are continuing at Shediac Bay, New Brunswick, relative to certain conditions which have restricted operations in that area.

Except for the strip of coast at Shediac the remainder of the New Brunswick oyster areas are under provincial control, as are the oyster beds of British Columbia, Canada's other main oyster producing area.

The war has not greatly affected the oyster industry. Canadian production is still far below Canadian consumption and in the autumn of 1939 the demand remained good and prices were approximately the same as in the previous year.

No. 359 -- Tues. Sept 23, 1940 -- Fisheries Protection

Rescue at sea! Salvage of valuable tug and tow in face of a rising storm! Dramatic incidents like these may be found recorded in the logs of Dominion fisheries protection vessels, but in the same matter of fact fashion as the reports of the

ordinary, humdrum though essential' duties which are carried out by day and by night.

Of course, the main duty of these protection vessels operated by the Government, is just what their name implies -- protecting the fisheries in the interests of the fishing industry and the country. But they perform other, and sometimes thrilling, services as well.

For instance take a recent case involving the fisheries protection vessel Kitimat, a disabled tug boat and two scows the tug was towing.

With a rising wind increasing hourly in the late afternoon, the Kitimat, one of the department's British Columbia vessels, sighted the disabled craft five miles off shore and steadily drifting farther and farther out to sea. It was a nasty outlook for the tug captain and the men with him -- until the Kitimat showed up.

In a few minutes the vessel was alongside and had a line aboard the tug. Four hours or so later the tug and her scows had been towed safely to port at Massett and the Kitimat was off again to continue her regular job.

To the captain and crew of the fisheries vessel it was "all in the day's work", but for the captain and crew of the tug and the scows it meant being saved from what would have been at best, a miserable and difficult night at sea and might have been at the worst a time of gravest peril.

Log books quite often tell of similar incidents on both coasts, fisheries vessels acting as rescuers, perhaps under adverse weather conditions, sometimes averting tragedy.

There were 68,958 fishermen in Canada during the year of 1939. Of this number 55,201 were employed in the sea fisheries, and 13,757 were employed in the inland fisheries. In addition, 14,818 persons were employed in fish canning and curing establishments.

No. 360 -- Wed. Sept. 24, 1940 -- Solving Industrial Disputes

The Industrial Disputes Investigation Act has attracted considerable favourable attention from legislators and publicists throughout the world. As enacted in 1907, it forbids strikes and lockouts in mines and certain public utility industries until the matters in dispute have been dealt with by a board of conciliation and investigation consisting of three members, two appointed by the Minister of Labour on the recommendation of the respective parties to the dispute, the third on the recommendation of the first two, or, if they fail to agree, by the Minister himself. Should either of the parties fail to nominate a board member, the Minister may appoint a fit person on its behalf. After such a board has made its report, either of the parties to the dispute may reject its findings and declare a strike or a lockout, a course that has been adopted, however, only in a small percentage of cases. With the consent of the parties concerned, the machinery of the Act may be utilized in connection with disputes in other industries.

In January, 1925, a judgment was rendered by the Judicial Committee of the Privy Council declaring that the Act as it stood was not within the competence of the Dominion Parliament. At the ensuing session of Parliament amendments were made to the statute with the object of limiting its operation to matters not within

exclusive provincial jurisdiction except when a province has passed legislation permitting the Dominion legislation to apply. The legislatures of all provinces except Prince Edward Island have taken advantage of this provision and enacted such enabling legislation. In December, 1937, however, a statute entitled the Industrial Conciliation and Arbitration Act was passed by the British Columbia Legislature providing provincial machinery for dealing with industrial disputes within the legislative jurisdiction of the Province and repealing the Industrial Disputes Investigation (British Columbia) Act.

Under the provisions of the War Measures Act, an Order in Council was passed on Nov. 7, 1939, extending the scope of the Industrial Disputes Investigation Act to cover disputes between employers and employees engaged in war work. This work is defined as including the construction, execution, production, repair, manufacture, transportation, storage, or delivery of munitions of war or supplies, and also the construction, remodelling, repair, or demolition of defence projects.

A review of the proceedings under the Industrial Disputes Investigation Act from its enactment in March, 1907, to Mar. 31, 1940, shows that, during the 33 years, 978 applications were received for the establishment of boards of conciliation and investigation, as a result of which 594 boards were established. In all but 41 cases, strikes or lockouts were averted or ended.

No. 361 -- Thurs. Sept. 25, 1940 -- Fair Wages

The Fair Wages Branch of the Department of Labour is charged with the preparation and enforcement of the labour conditions and schedules of minimum wage rates that are inserted in Dominion Government contracts for works of construction, remodelling, repair, or demolition. The number of fair wages schedules prepared, from the time the Fair Wages Policy was adopted by the Dominion Government, in 1900, up to the end of the fiscal year 1938-39, was 8,895. The number of fair wages schedules furnished during the fiscal year 1938-39 was 675.

The Department of Labour also co-operates closely with other departments of the Government in ensuring the observance of the fair wages conditions inserted in contracts for the manufacture of various classes of equipment and supplies for Government use, and is frequently consulted by other departments regarding the prevailing rates of wages to be observed on works carried out by day labour.

The Fair Wages Policy of the Government of Canada was originally based on a resolution adopted by the House of Commons in 1900. The policy was later expressed and developed in various Orders in Council, in the Fair Wages and Eight Hour Day Act, 1930, and in the Fair Wages and Hours of Labour Act, 1935. The provisions of these are set out in some detail at pp. 780 and 781 of the 1939 edition of the Canada Year Book.

Owing to the large and increasing number of defence contracts that are being placed by the Dominion Government for the manufacture and overhaul of aircraft, for the manufacture of ordnance, and for the construction and repair of boats of various types, it is now the policy of the Government to insert in such contracts schedules that have been drawn up in consultation between the Department of Labour and the other Government departments concerned, setting forth the minimum rates of wages and the maximum hours to be observed in the execution of the respective undertakings

throughout the country. The Department of Labour co-operates closely with the Government departments concerned in ensuring that the contract conditions are strictly enforced

No. 362 -- Fri. Sept. 26, 1940 -- Road Development

With the rapid increase in the percentage of motor-car owners to population the demand for improved roads has become more and more insistent since the War of 1914-18. Furthermore, the advantages to be gained by attracting touring motorists have been a powerful incentive to governing bodies to improve trunk roads and scenic highways within their jurisdictions. One sphere where the motor-car has been of special economic advantage has been rural areas, where its speed and economy are a great improvement over the old horse-drawn vehicle. As a result, in the Census of 1931 every second farm reported a farm-owned motor vehicle (1.96 farms per farm-owned motor vehicle). This widespread rural ownership of automobiles has, in turn, brought about an improvement of secondary rural roads.

There are great stretches of country in the northern portions of Quebec, Ontario, the Prairie Provinces, and British Columbia with very few people and very few roads, but the southern portions are well supplied. The Trans-Canada Highway is now under construction, running from the Atlantic to the Pacific Oceans entirely in Canadian territory.

Statistics of urban streets have been collected since 1935 from cities and principal towns; the small municipalities omitted would increase the totals very little. For 1938 the total number of miles of street reported was 12,877 composed of: 2,304 miles of sheet asphalt; 900 miles of portland cement concrete; 1,444 miles of bituminous macadam, concrete, and other bituminous surfaces; 567 miles of water-bound macadam; 2,617 miles of gravel and crushed stone; and 807 miles of other surfaces; making a total of 8,639 miles of surfaced streets and 4,238 miles of earth roads. These figures for urban streets or roads are not included in the table of highway mileage.

No. 363 -- Sat. Sept. 27, 1940 -- Financing Car Sales

Financing corporations play an important part in the retail distribution of both new and used motor vehicles in Canada. They extend credit facilities to customers who could not enter the market if required to pay with cash and to others who, though in a position to pay cash, find it more convenient to budget their expenditures on the instalment basis. They also provide a service to the motor dealers by assuming the risks and inconveniences connected with instalment sales, thus permitting the dealers to operate on a smaller capital outlay than would otherwise be necessary.

Statistics on financing are compiled monthly from returns secured from all large finance companies in Canada that are engaged in purchasing accounts, contracts, or notes arising out of retail sales of motor vehicles. Aggregates of the monthly data show that sales of 153,107 motor vehicles (including both new and used models) were financed to the extent of \$62,768,746 in 1939. These figures reveal decreases of 5.9 p.c. in number and 9.9 p.c. in amount from the 162,703 vehicles that were financed for \$69,685,853 in 1938. New vehicles numbering 37,320 were financed for \$27,852,627 or an average of \$746 each. There were also 115,787 used vehicles whose sales were financed to the extent of \$34,916,119 or for \$302 each.

In 1939, 32.5 p.c. of all new motor vehicles sales in Canada passed through the hands of financing corporations. The corresponding amount of financing amounted to 22.1 p.c. of the total selling value of all new models. Total sales of used vehicles are known only for 1937. In that year 44.9 p.c. of all used vehicle purchases were financed by these finance corporations.

No. 364 -- Sun. Sept. 28, 1940 -- Official Languages

In the Census of 1931, 1,322,370 persons were reported as speaking both the official languages of Canada, 6,999,913 speaking English, 1,779,338 speaking French, and 275,165 as unable to speak either English or French.

One interesting sidelight that analysis of the data from the 1931 Census has shown is the respective capacities of rural and urban people to speak the official languages; it is especially interesting to compare the proportions of them that are able to speak both languages and also the proportions unable to speak either. About twice as many speak both French and English in urban localities as in rural localities, and about three times as many of the latter as the former speak neither of these languages. There is, of course, greater opportunity for intermingling in urban residence than rural, and probably also greater necessity for acquiring the official languages in urban occupations.

The obvious conclusion or expectation would be that larger proportions among the urban populations than among the rural have acquired both official languages. But other factors enter into the question, since the acquisition of both official languages is as much a matter of capacity to acquire them as of opportunity, inter-marriage, necessity, and so on.

No. 365 -- Mon. Sept. 29, 1940 -- Lobster Industry Emergency

How the war affected the Canadian lobster industry and how the emergency was met is an excellent example of enterprise and devotion to the public interest. Incidentally it made a little bit of history by the fact that for the first time in the fisheries business a brand name has been registered by the Canadian Government. Canada Brand is the name.

It all came about in this way. Canada produces large quantities of canned lobster, and the great bulk of peace-time pack has been exported to European countries, mainly the United Kingdom. The war closed these markets and that brought many of the 20,000 and more lobster fishermen, cannery workers, and cannery operators of the Atlantic provinces face to face with grave emergency.

Indeed, unless new outlets for canned lobster could be opened up many of these people would face disaster.

On the recommendation, therefore, of the Minister of Fisheries, a federal canned lobster marketing plan was set up under which an officer known as Controller for Canned Lobster was authorized to purchase as much as 55,000 cases of lobster from the packers and put it on the market.

It was recognized, of course, that, in practice, the controller would have to make his sales in Canada and the United States. Neither country has heretofore used very large quantities of canned lobster, partly, perhaps, because dealers have given most of their attention to development of European business.

The marketing plan went ahead. The controller's purchases from canners, by the way, were made conditional upon the packers paying to the fishermen for live lobsters approximately eighty per cent of the average price received by fishermen in the last three years of peace-time. In turn, the controller pays the canners prices which are approximately eighty per cent of the average price received for canned lobster in the same three peace-time years. Steps were taken to provide for careful inspection and grading of all canned lobster purchases by the controller.

To permit marketing as a readily recognized product it was necessary to adopt a trade name under which the canned lobster might be offered to the consumer. Thus came the decision to use the name "Canada Brand" and registration of the trade name.

No. 366 -- Tues. Sept. 30, 1940 -- Another Series Ended

Today's ends another in the Series "A Fact a Day about Canada." For six years now these facts have continued, and, with the October issue we shall have entered upon a seventh year.

As many will remember, the Fact a Day series was begun at the invitation of the C.B.C., which asked for a daily story from the Dominion Bureau of Statistics illustrating the progress of Canada in all the vast factual material which passes into the hands of the Bureau. It was required that these Facts should be made as interesting as possible. The Facts were communicated by the C.B.C. announcer immediately after the evening's broadcast of Canadian Press news.

For three years the broadcast continued nightly, the full extent to which the C.B.C. allows for such a feature. During that time some 30,000 letters in connection with the Facts was received from people throughout Canada and abroad, one letter from a Canadian sea captain at Shanghai. Most of them came from school teachers, and, of those the majority were teachers in Western Canada.

It was expected that the feature would then be dropped, but there were so many requests for a continuation, that it was decided to carry on. These requests came largely from school teachers who were using the Facts as a supplementary study in their classrooms and from some independent radio stations, especially those broadcasting a school hour. Accordingly, the Fact a Day has been continued and sent out in the present monthly form, and a small charge made. Some school boards ordered copies en bloc for their teachers.

During the past year the war has changed somewhat the complexion of the Fact a Day. We have tried, so far as such publication can go, to tell readers something about Canada and its war condition, as well as the story of the brave young men who are fighting Canada's and the Empire's battle so nobly. We hope that before another year goes by the hordes of Hitler and his henchman Mussolini will have been conquered, and peace will again reign wherever free men have their being.

In drawing to a close the sixth year of a Fact a Day, may the Editor be allowed to conclude by saying that it has been a labour of love and express the hope that amongst the thousands of readers, some at least will be enabled to say that they have learnt something unexpected and quite interesting about this beloved Canada of ours.

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DEPARTMENT OF
TRADE AND COMMERCE



CANADA

A FACT A DAY ABOUT CANADA

FROM THE

DOMINION BUREAU OF STATISTICS

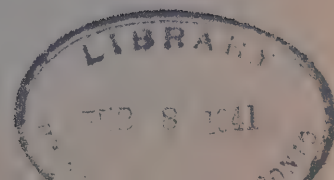
OCTOBER 1940

SEVENTH SERIES

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James Muir,

Editor.

from the

Dominion Bureau of Statistics

No. 1. Tues, Oct. 1, 1940 — Producer Gas.

With this issue of the Fact a Day a new series begins. It is the seventh series, so that this little service publication is well past the age when fond parents think it is time for their children to start school. We have learnt a few things in these past six years, particularly what our readers want to know about Canada and its people, their relationship with the greater world outside.

Probably it is because we have grown up as a nation so fast in the last few years, especially during the past year, that a greater interest in our dealings with other countries has been observed. Readers seem to like little talks about other countries, and how many of the people of these countries have helped in building up this Dominion. So you may expect in the course of the next twelve months to read more about these.

Meanwhile we have been endeavouring to show how the people of Canada, engaged in varied activities, can be of service in winning the war. Today let us talk about Producer Gas.

With imports of crude oil, fuel oil and gasoline in 1939 amounting to more than \$48,000,000, Canadians now have an opportunity to help conserve foreign exchange for war purposes by turning wherever practicable to the use of producer-gas from charcoal or wood as fuel for internal combustion engines. There are of course some difficulties to overcome. Special equipment is required which is bulky and costs from \$350 up to install. More space is required to carry the fuel and there is some reduction in engine power.

On the other hand there are definite advantages. Producer-gas costs the consumer much less than gasoline. The Forest Products Laboratories of the Department of Mines and Resources reports that on the basis of gasoline at 22 cents per gallon, charcoal at \$20 per ton and air-dry hardwood at \$7 per cord, the cost of gasoline fuel for a vehicle is about double the cost of producer-gas from charcoal and nearly five times the cost of producer-gas from wood.

Producer-gas is being used successfully in many countries as a substitute for gasoline for operating internal combustion engines, especially in trucks, buses and boats. In England and Australia efforts are being made to extend to the utmost the use of producer-gas from charcoal. Since the conclusion of the world war of 1914-18 other countries have devoted a great deal of attention to developing substitutes for gasoline as they realize the difficulty of obtaining adequate supplies in time of war, and some of them have gone so far as to promote the use of home-made products even at an economic disadvantage.

Canada has no difficulty in obtaining adequate supplies of liquid fuels, but most of her requirements are derived from crude oil imported from the United States. The wider use of producer-gas as a substitute for gasoline would not only help conserve foreign exchange, but would also provide another outlet for forest products.

No. 2. Wed. Oct. 2, 1940 -- Metallic Contamination of Foods.

With the great increase in the domestic canning of foods to help carry us through the trying days of war, a word or two about metallic contamination may be helpful.

Traces of metals occur naturally in many foods, and biochemical research indicates that at least nine, sodium, potassium, calcium, magnesium, iron, copper, manganese, zinc and cobalt are necessary for proper nutrition. On the other hand, metallic contamination of foods may cause spoilage from impairment of flavour or colour, and some metals, even in minute amounts, are definitely toxic.

Contamination usually occurs by contact, either in the process of manufacture or with the container or wrapper of the final product. Insecticide sprays may also be responsible. Lead and arsenic are usually considered the most dangerous metals. Lead arsenate, however, is a valuable insecticide and has received wide application on the apple crop. Extensive investigations have been undertaken in the Government laboratories to insure that spraying practices will leave residues within the tolerance permitted by the health regulations of the Department of Health. Lead is readily picked up by contact, and lead contamination of processed foods must be avoided by the elimination of lead or its alloys, such asterne plate, from all parts of the equipment, which may come in contact with food.

Other metals which have occurred in foods with harmful results are antimony, cadmium, zinc, and copper. Antimony oxide has been used in place of tin oxide to render enamelware opaque, and there is definite danger in keeping acid foods in such vessels. Cadmium poisoning has occurred from contact of acid foods with cadmium plate. Zinc is less toxic and comparatively large amounts can be taken without serious results. This metal usually occurs from the use of galvanized iron equipment and care should be exercised in the use of this material for processing or storing food. Copper has often been found as a contaminant of food products. At one time it was a common practice to use copper salts to colour green vegetables, especially peas. Because of possible injury to health, the use of copper compounds in colouring fruit and vegetable products is prohibited. Copper is readily picked up by acid foods from contact in processing, especially if the surface is tarnished. In view of recent regulations limiting the amount of copper permitted in tomato products imported into Great Britain, a survey of the copper content of a number of Canadian tomato products was recently completed. Results showed that the copper content seldom exceeded 50 parts per million on the dry basis. Research has shown that traces of copper are responsible for "tallowy" flavour in dairy products, so that copper contamination of milk and butter must be carefully avoided.

Contact of foods with iron, tin and aluminum has not been known to cause injury to health, and when present in excessive amounts or under certain conditions, these metals may cause "off" flavour or discolorations.

A balanced diet will supply adequate amounts of all metals required for the proper functioning of the human system. The inclusion of metals in foods from extraneous sources should be reduced to a minimum. Examination of products of the Packing Houses and Canneries and of materials used in their preparation for metallic impurities is carried out by the Scientists of the Dominion Department of Agriculture. This service maintains quality and insures that the various products are fit for human consumption.

No. 3. Thurs. Oct. 3, 1940 --- Forest Fire Losses.

Although the danger season is not yet over, indications are that Canada's forest fire losses for 1940 will probably be about average, resulting in direct losses of between four and five million dollars, according to the Dominion Forest Service. These direct losses only represent a small part of the picture as they do not take into account loss of soil fertility, seed supply for future crops, tourist and watershed protection values, and impoverishment of wild life.

Canada has made marked progress in the last twenty years in forest fire research, and modern methods of prevention and detection together with effective fire-fighting equipment now prevent many forest fires from reaching destructive proportions. Statistics show there has been a general trend increase of about ten per cent in the annual number of fires, but they also show that over this period the size of the average fire has been reduced by one-half. Increased travel to forested regions in recent years, made possible by motor cars, has been largely responsible for the greater number of fires, and the reduction in the size of the fires has been brought about by the steadily increasing efficiency of the protective agencies.

With forest protection authorities now operating on greatly reduced budgets, their efforts have to be largely restricted to the safeguarding of property and valuable timber stands, and any improvement in the general situation must depend in large measure on the co-operation of the general public in preventing forest fires. Records show that human agencies are responsible for about 85 per cent of the fires. Neglected campfires cause about 20 per cent of forest fires, careless smokers 15 per cent, settlers' clearing fires getting out of control 17 per cent, and incendiary fires amount to about 9 per cent. Lightning causes about 15 per cent of Canada's forest fires.

No. 4. Fri. Oct. 4, 1940 --- Newfoundland's Defences.

All of Canada, indeed all of our Commonwealth of Nations, has been thrilled by the manner in which Newfoundland, the oldest colony, has risen to the support of Great Britain in the defence of liberty. Here is something very interesting about the defences of the Island.

Newfoundland's defence preparations are being accelerated by the existence of surveys laid down by Canadian Government geodetic engineers. Under a co-operative agreement between the Dominion Government and the Commission Government of Newfoundland, a geodetic survey of the island colony was undertaken in 1935, the Geodetic Service of the Dominion Government supplying the technical officers and equipment and publishing the geodetic data, and the Commission Government bearing all field expenses. Undertaken as a basic requirement in connection with the development of the natural resources of the island colony, these surveys have assumed increased importance in view of recent defence preparations.

An interesting feature, before the work was commenced, was the extension of the Canadian triangulation net to the Newfoundland Coast by long sights across Cabot Strait from Cape Breton. The average sight distance was 92 miles and observations on light signals were made at night. Geographical positions have been accurately established through the geodetic survey work and, with altitudes similarly secured, have been invaluable in the mapping of various districts containing natural resources.

In the Hunter River watershed, triangulation data have been employed as a frame-

work for plotting aerial photography. In the Botwood district mapping for geological investigations has been based on positions located through triangulation. The large airport at Gander Lake and the seaplane base at Botwood have been similarly located. Hydrographic operations on the west coast of Newfoundland have been facilitated by triangulation data secured. Such data have been invaluable in the preparation of charts now being made of Newfoundland for defence purposes.

The triangulation net through Newfoundland is also an important link in the triangulation system around the Gulf of St. Lawrence which is necessary in fixing accurately positions on the north shore of the gulf, where accurate mapping information has not been available. Triangulation data secured will also eventually be the basis of the demarcation and survey of the Canada-Newfoundland boundary in Labrador.

Field operations in the 1940 season were restricted because of war conditions, but included the extension of the main net towards the Strait of Belle Isle, at which point a tie will be made with the eventual Canadian network along the north shore of the Gulf of St. Lawrence. For the past six seasons the work has proceeded satisfactorily and despite some delays, caused by poor observing conditions, the Newfoundland triangulation net is now nearing completion.

No. 5. Sat. Oct. 5, 1940 -- Wintering the Pullets.

This is the day children are free of school and many of them are busy helping their fathers and mothers to do a great old clean-up, especially in the poultry run. Let us talk for a moment about winter laying, for eggs are going up in price and this can be made a very profitable winter for a lot of country folk. Some countries are short of eggs these days. Fortunately we are not.

Early hatched pullets are already beginning to lay, and before many eggs are laid the flock should be placed in winter quarters. If housing is delayed long after the pullets are well developed, and laying has been in progress, sometimes the change in management may injure production.

The house should be thoroughly cleaned and repaired before the pullets are housed. At the Dominion Experimental Station at Fredericton, N.B., all old stock is removed from the house about two weeks before the arrival of the pullets. The old flock can be culled and sold at this time and quarters can usually be found for the remainder of the birds. All nests, roosts and other movable equipment are taken out to facilitate cleaning with the shovel, scraper and broom. The house and equipment are then scrubbed thoroughly with a hot lye solution, using about one teaspoonful of lye to a gallon of water. They are then sprayed with a coal tar disinfectant, used at about double the strength recommended by the manufacturer for ordinary disinfecting.

A suitable ventilation system is important during the fall and winter months, as pullets will not usually give satisfactory results in a cold draughty house. At the Fredericton Experimental Station, Fredericton, N.B., a glass and cotton front house with a straw loft was remodelled by insulating the walls and ceiling with shavings and by replacing the cotton fronts with sliding glass frames. This house is in an exposed position. It had never given satisfactory results but after it was remodelled, production was over 60 per cent for the entire winter.

A postcard to the Dominion Experimental station at Fredericton will bring some very valuable hints.

No. 6. Sun. Oct. 6, 1940 -- An Alberta Saga.

For the second year in succession, farmers from the Rolling Hills District of Alberta have won first prize at Brooks Fair, Alberta, for wheat, oats, and barley. At first sight this bald statement would appear to be of local interest only, but behind it lies a saga of the West--a story of heroism and final triumph over years of adversity. These farmers come from the irrigated tract south of Lake Newell recently opened under the Prairie Farm Rehabilitation scheme, but before their removal under the Prairie Farm Rehabilitation Act, they were living on government relief as a result of the battle against the elements in trying to make a living on the arid lands of the drouth-stricken areas of Southern Saskatchewan.

Year after year they depended upon natural rainfall and year after year their hopes were blighted; they sank further and further into a morass of debt. Eventually under the Prairie Farm Rehabilitation Act, the Dominion government decided to turn their land into community pastures and to offer them a chance of re-establishing themselves on irrigated lands. They were dry-land farmers who knew nothing whatever of the technique of irrigation, but they had the promise of aid from the Prairie Farm Rehabilitation officials. Moving into the Rolling Hills District of Alberta, they applied themselves bravely to a new kind of farming. With the help of the officials, they installed pumps, dug ditches, and spent long hours over their shovels in a finely conceived and well executed plan.

The first year, they planted mostly cereal crops. The harvest was good and the settlers were so pleased with the results that they determined to submit their entries at the Brooks Fair. Competing against men who had managed irrigated lands for years, the new settlers carried off the honours in wheat, oats, and flax. That was in 1939. This year they again competed and again carried off the honours in wheat, barley and oats. The Prairie Farm Rehabilitation Act officials at Regina regard this as a remarkable achievement, inasmuch as inexperienced irrigators commonly have many failures. The percentage of failures at Rolling Hills under the P.F.R.A. is negligible.

No. 7. Mon. Oct. 7, 1940 -- Sending Apples to the Soldiers.

Before shipment of apples to the United Kingdom can be made to members of the C.A.S.F., Canadians serving in the British or Allied Forces or to civilians, a certificate must be obtained from a Dominion Fruit Inspector certifying that the apples comply with the requirements of the Destructive Insect and Pest Act. The Department of Trade and Commerce emphasizes that the greatest care must be taken in conforming to the regulations governing package weights and method of shipment.

Gifts of apples may be sent to civilians in the United Kingdom by freight or express through trade channels only. Such packages must not exceed 15 pounds weight, must be individually addressed before leaving Canada, and forwarded to an authorized importer in the United Kingdom for distribution by parcel post. In addition individual parcels not exceeding 20 pounds weight may be sent direct by parcel post from Canada.

There are no weight limitations on packages of apples sent to members of the C.A.S.F. or to Canadians serving in other British or allied forces when forwarded by express or freight. When sent by parcel post from Canada, however, the parcels must not exceed 20 pounds weight. Gifts forwarded to individual members of the C.A.S.F. by freight or express must be addressed to the consignee in care of the Officer Commanding the unit and shipped through a forwarding agent to enable clearance through customs. Carlots of individually addressed packages should be consigned to the Senior

Officer, Auxiliary Services, C.M.H.Q., Cockspur St., London. Similar gifts to Canadians serving in British or allied forces should carry the name, number, rank of the consignee, and the name of the unit and be addressed in care of the Canadian Auxiliary Services, 6 Dilke St., Chelsea, London, S.W.3.

The Dominion Department of Agriculture points out that while there is no regulation against the sending of apples from Canada by parcel post to the United Kingdom up to a maximum weight of 20 pounds, except that they require inspection by a Dominion Government inspector, the sending of such parcels is not considered practical and therefore is not recommended. The reason for this recommendation, states the Department, is that due to the fact apples are a perishable product, they are not likely to arrive in good condition, because when sent by parcel post they do not go forward under favorable shipping conditions.

No. 8. Tues. Oct. 8, 1940 -- Hollywood of Canada.

Most Canadians think of the movie industry in terms of Hollywood. But any Canadian who wishes to step behind the screen and peer into the mysteries of film production may do so right in his own country. For Canada has a permanent company which produces pictures year after year.

Little more than twenty years old, the Associated Screen News, with its headquarters in Montreal, has become the centre of Canada's movie industry. As its name implies, the company started as a news-gathering organization. From this small beginning it has developed to a producer of theatrical and commercial pictures and is Canada's foremost exponent of the documentary film technique. Associated Screen Pictures are shown all over the United States, Britain and the Dominions and in as far-away places as Burma, Siam, Sarawak, China and Borneo.

Nearly half a million dollars is invested in the studios and laboratories of this all-Canadian company. In it are to be found most of the departments of a Hollywood organization.

An Art Department specializes in Main and Credit titles. Animation is handled by artists trained in its difficult technique. A Scenario Department provides original ideas, detailed scenarios and "shooting" continuities. In a Sound Studio, equipped for the finest reproduction, sound is recorded under the direction of skilled engineers. The Editing Rooms are a curious mixture of noise and silence as sound is matched or individual scenes put into proper sequence.

Most outsiders are fascinated by the Production Studios. There, in an ordered profusion of paraphernalia, make-believe becomes reality on celluloid. There, studio cameras and sound-booths share space with batteries of lights, with exterior and interior sets and many varied properties, often including the kitchen stove. Entirely apart from production activities are the Laboratories. Here, negative, sent from American and British producing companies, is developed and printed for distribution throughout Canada. More than eighty percent of the film shown in the Dominion has been processed in this laboratory.

So, from a small start back in the nineteen-twenties, this Canadian movie company has grown into a thriving industry, into the "Hollywood" of Canada.

No. 9. Wed. Oct. 9, 1940 -- Heating with Wood.

Canadian householders can help to conserve foreign exchange for war purchases by the increased use of wood for domestic heating purposes and at the same time reduce their annual expenditure for fuel.

Each year for domestic consumption in Canada, quite apart from industrial uses, about 3,400,000 tons of anthracite coal and about 1,800,000 tons of bituminous coal are imported. In addition, homes equipped with oil burners necessitate the importation of a considerable quantity of crude oil from which fuel oil is derived. Under present conditions, when every effort is being expended to conserve foreign exchange, it is important that Canada's outlay for imported fuels be reduced by drawing on her abundant resources in fuel from low grade wood, sawmill waste, sawdust and other such material to as great an extent as possible.

At present Canada uses approximately 10 million cords of wood a year for domestic fuel. This exceeds the quantity cut for either sawlogs or pulpwood, and is equal in heat value to about 6,600,000 tons of anthracite. Effective heat obtained from $1\frac{1}{2}$ cords of good hardwood is equivalent to the heat obtained from one ton of anthracite coal.

While burning wood may entail more work and inconvenience in stoking than some other fuels, in most cases a substantial saving can be made by its use. Important advances have been made in recent years in the manufacture of stoves and furnaces for burning wood, and in the development of sawdust burners. As a measure of national economy, increased reliance on Canadian fuel wood resources is important, and places within the reach of every householder a means of furthering the war effort.

No. 10. Thurs. Oct. 10, 1940 -- Fisheries' Worth.

Canada's fisheries production in 1939 had a total value of \$40,000,000, of which the sea fisheries contributed 85 per cent, and the inland fisheries, 15 per cent. Compared with 1938 the value of the sea fisheries showed a substantial increase, while the inland fisheries decreased. These total figures represent the value of the fish as marketed, whether sold for consumption fresh, canned, smoked, or dried.

The salmon fishery was by far the most important, its value in 1939 amounting to 33 per cent of the total. Following, each with a value of almost four million dollars, were the lobster and herring, while cod, with slightly more than three million dollars, was fourth on the list of the chief commercial fish.

By reason of her great salmon fishery, British Columbia ranked first among the provinces in order of marketed value of product. Nova Scotia held second place, with the cod, lobster and haddock fisheries accounting for more than half of the marketed value of the Nova Scotia production. New Brunswick was in third place, with the output of the sardine and lobster fisheries representing 65 per cent of the total value of the fisheries production of the province.

Fish marketed for consumption fresh, including fresh fillets, had a total value of about \$17,000,000 in 1939. The canned production was valued at over \$15,000,000, of which canned salmon accounted for over \$10,000,000. The bulk of the salmon is marketed canned, and for this product the principal markets have been found abroad, with countries of the British Empire taking the major part.

No. 11. Fri. Oct. 11, 1940 - Order of the Mop and Broom.

In this restless ever changing world of ours, it is heartening to discover that some old customs of our grandparents still survive and are standing the rigid test of time. One of these is "sweeping".

Ah, yes, there are several kinds of sweeping in vogue today. We have armies sweeping the country, brushing human life before them as though it was rubbish; we have mine sweeping abroad in the seven seas; we even have sweeping "hair do's". But these are all products of modern civilization.

Going back to yesteryears, when life was simple and the world was not a bedlam of intricate mechanisms, we find that one of the most unimposing and indispensable articles in the home was an ordinary broom. It is still unimposing and still indispensable.

What is more, if figures have not lost their reputation for veracity, new brooms still sweep clean. Statistics reveal the fact that Canadian housewives are as devoted as ever to the ancient order of the mop and broom. Last year retailers sold over three million corn brooms and about one and one half million mops of all kinds. This is entirely exclusive of whisks and brushes. The total selling value of all the products of this industry devoted to the needs of Canadian home-makers amounted to almost four and one half million dollars for the year 1939.

No. 12. Sat. Oct. 12, 1940 --- Platinum.

Canada produced 284,304 ounces of platinum and allied metals in 1939, more than half the estimated world output of 500,000 ounces for the year. All but a small part of the entire Canadian output of platinum metals comes from the nickel-copper ores of the Sudbury area in Ontario. A few ounces are also obtained from the black sands of British Columbia and small quantities are recovered as an impure residue in the refining of gold at Trail, B.C. Since 1934 Canada has been the world's leading producer of platinum metals, displacing Russia, which previously held first place. Other principal producers are Russia, South America (Colombia), and South Africa.

During the past fifteen years the price of platinum has fallen considerably, decreasing from about six times the price of gold to approximately the same value as gold. This reduction in price together with research on the possibilities of platinum as an industrial metal has brought about a greater use and increased demand.

A considerable market for platinum and platinum metals has been developed in the armament industries, where it is used for instruments, for reflectors and lamps for searchlights, and for contact points in airplane engines.

In the electrical industry it is used extensively for contact points, power switches, thermostats, resistors for high temperatures, electric control apparatus and clocks, while the chemical industries use platinum for laboratory equipment, for anodes, and as a catalyst in the production of sulphuric, acetic and nitric acids.

A new development occurred during 1939 in the rayon industry, where platinum-rhodium spinnerets have taken the place of the older platinum-gold spinnerets. The use of platinum continues to increase in the glass fibre industry, where it is employed for extrusion dies and feeder apparatus. The conservation of gold by many countries is assisting the demand for platinum metals, particularly palladium, and

the use of palladium as a substitute for gold alloys for dental restorations, pen points and jewellery articles is making substantial headway.

No. 13. Sun. Oct. 13, 1940 -- Waterproofing in Canada.

Contrary to popular opinion, the idea of waterproofing is not new. As far back as the early 1600's a patent was applied for, covering an invention that would render fabrics water resistant. Our modern mackintosh came into being in 1823 when Geo. Mackintosh was granted a patent and set up a plant in Glasgow for the manufacture of waterproofs. Since that time, the industry has grown into sizeable proportions, and great strides have been made in the last few decades, until today the waterproofing business gives promise of becoming one of Canada's major manufacturing industries.

Volumes could be written concerning this interesting field of endeavor, without exhausting the wealth of information obtainable, but much of it is so technical and complicated that only those skilled in research and chemistry know what it is all about. In other words, there is more to a waterproof than meets the eye, or the rain either, for that matter.

Nature has endowed most textile fibres with a curious water-resistant quality that is, of necessity, destroyed during the process of manufacture in order that an even and stable dye may be produced. As a rule, in order to re-instate this water-repellent quality, one of two methods is used.

First a protective film may be spread over the whole of the fabric, which renders it impervious to air, a quality condemned as unhygienic. Secondly, each individual fibre may be covered with some soluble material such as wax or soap or metallic oxide, in which case the fabric remains porous and air can circulate freely. But if the air can get in so can water, should the pressure be great enough. Therefore, fabrics treated in this manner cannot be said to be entirely waterproof.

Materials such as rubber, tars, asphalt and other bituminous materials have been used to a great extent in waterproofing cottons, such as rain coat fabrics and tarpaulins. Synthetic resins are also used in waterproofing various materials. Oiled silks were known in the Orient long before they made their appearance on the Canadian market, and probably received their name from the tung oils used in their production. Wax has been in use for many years and is applied either as a solution, rubbed in as a solid or powder, or applied in the form of an emulsion. In each case, while rendering the fabric water-repellent, the process does not make it resistant to washing or dry cleaning.

A short time ago a product for giving fabrics a waterproof finish was brought to light. It is called Velan and is a complex organic chemical. This substance eliminates all damage previously wrought by washing and dry cleaning and gives the fabric a fine soft finish. In treating fabrics with Velan, each individual fibre is covered with a protective coating and by a baking process the material is made entirely water-resistant. In this way the finest velvets, silks and even hosiery can be made impervious to moisture and stains.

There is little doubt but that the waterproofing industry has come to stay. Its great advancement in the last few decades has opened up new fields for the chemical and textile industries. Those engaged in research along this line may have thought the general public was ungrateful and inconsiderate of their efforts. While the man on the street was loudly and enthusiastically acclaiming the progress made in the more spectacular fields of automobiles and aeroplanes, he didn't notice the improvements in

common every-day things like raincoats, umbrellas, shower curtains, and washable wall-paper. He didn't stop to think of what the sailor and fisherman would do without a sou'wester, or what he himself would do without galoshes. Until he paused and looked around, he didn't realize to what extent he was indebted to the waterproofing industry, for his comfort, convenience and well being.

In Canada there are twelve establishments whose output consists largely of waterproofed clothing. In 1939 the gross value of production was over one million dollars. At the present time more waterproofing patents are being granted than at any time during the past decade or two. With new and valuable proofing being discovered, it is not being presumptuous to say that we can expect big things from this industry as time passes.

No. 14. Mon. Oct. 14, 1940 --- Set the Mousetrap.

At this season of the year, mice, in seeking suitable winter quarters, find their way into dwellings, sometimes in quite appreciable numbers. This is particularly noticeable in rural districts but also occurs to some extent in suburban areas and in city dwellings.

The common house mouse is the chief offender, but field mice will readily establish themselves in a very short time. Both species in their quest for more comfortable quarters with the approach of winter are driven indoors. Mice are very prolific and, if not checked, soon become a nuisance. The house mouse begins to breed when three months old and has litters at intervals of eight or ten weeks throughout the year.

Unlike many other animals, mice are not particularly wary of baits and traps and are therefore fairly easily controlled. While poisoned baits are effective, they are not recommended for use in dwellings, traps being satisfactory, safer, and more sanitary, as the bodies of the mice may be disposed where they will not create an offensive odour. The ordinary guillotine or "snap" trap is the most satisfactory. Cheese, fried bacon, raw meat, oatmeal, and fruit are suitable baits for these traps. A good combination bait is a mixture of peanut butter, rolled oats, and chopped raisins. A drop or two of aniseed oil may be added. If the mice are numerous, several traps should be used, placing them where the mice are known to frequent.

No. 15. Tues. Oct. 15, 1940 --- Milk.

One food that is in universal demand, year in and year out, is milk. In any language it spells nourishment. Included in all diets, whether the purpose be to reduce, build up or merely to maintain a normal healthful standard, milk is the only substance which nature has created solely for food, and is practically indispensable. From a glance at statistics, the latest available being those for 1938, we see that Canadians consume on the average of .82 pints of milk per day per person.

What is milk that old and young alike thrive on it? Well, physically it is a whitish yellowish fluid secreted by the mammary glands of female mammals for the nourishment of their young. Chemically, it is a liquid composed basically of water, protein, fat and other heat and energy producing materials. Milk varies in degrees of concentration, depending upon the type of mammal. However, all milk contains minerals, vitamins and sugars and these essential contents form the foundation of modern dietetics.

Cows, of course, are the most important mammals as far as the commercial production of milk is concerned, and they play a leading part in man's inherent struggle for existence. For over 10,000 years, and perhaps for far longer, cows have been raised for the production of milk and today, through years of selection and breeding, they form the basis of one of the Dominion of Canada's all important industries, one upon which countless human lives depend.

Tremendous strides have been made in dairying in the last few decades. Science and chemistry have invaded the bovine realm and brought improvements in sanitation systems and housing conditions, with the resulting increase in quantity and quality of milk. Modern refrigeration has minimized the dangers of contamination. Strict regulations regarding tested cattle have lessened the old fears of infection and disease in milk. All these factors combine to make dairying a primary industry in a rising young country where opportunities for agricultural pursuits are infinitely great.

Since the first milk production estimate, contained in the Census Report of 1931, the farm output has increased from seven billion pounds to more than double. Not only has the output of milk itself been doubled but likewise that of its various by-products, including butter, concentrated milk and ice cream. Up until the outbreak of war, cheese alone had failed to keep pace with the rest of the products of the dairy industry. However, since January of the current year the production has increased from 115 million pounds to 132 million, a gain of 15 per cent over the output during the same period last year. This has boosted the cheese industry considerably for there is now an almost unlimited market for its consumption.

No. 16. Wed. Oct. 16, 1940 --- Canadian Clay.

Increased activity was noted in the Canadian clay industry during 1939, with production of domestic clays reported in every province except Prince Edward Island. Sales of domestic clay and clay products during the year had a gross value of \$5,151,236 as compared with \$4,536,084 in 1938. Canadian clays are manufactured into refractories, building brick, structural tile, floor tile, roofing tile, drain tile, sewer pipe, and pottery.

Common clays suitable for the production of building brick and tile are found in all the provinces of Canada. The greatest producing area of stoneware clays or semi-fireclays is in the vicinity of Eastend and Willows, Saskatchewan, but the manufacture of these clays into stoneware, sewer pipe, and pottery is centred at Medicine Hat, Alberta, owing to the availability of cheap natural gas fuel. Stoneware clays and moderately refractory fireclays occur near Shubenacadie and Musquodoboit, Nova Scotia, but apart from the use of some of the Musquodoboit clay in the production of pottery there has been no extensive exploitation of these clays for ceramic use. Stoneware clays, or low-grade fireclays, are also known to occur near Williams Lake and Cumnay Creek Bridge in British Columbia; in the Cypress Hills of Alberta, and near Swan River, Manitoba, but as yet there has been little or no development of these deposits.

Fireclay refractories are manufactured from domestic clay at two large and a few small plants in Canada. At one plant, near Vancouver, a high grade, moderately plastic fireclay is obtained by underground mining from the clay beds in the Sumas Mountain, and is manufactured into firebrick and other refractory materials. Another plant at Claybank, Saskatchewan, uses the highly plastic, refractory clays recovered by selective mining from the white mud beds of southern Saskatchewan. Small quantities of the most refractory clay in the deposits near Shubenacadie are mined for refractory use and the Musquodoboit clay is utilized to some extent for stove linings.

China clay has been produced commercially in Canada only from the vicinity of St. Remi d'Amherst, Papineau county, Quebec. Important deposits of high-grade plastic white burning clays and buff-burning clays occur on the Mattagami, Abitibi, and Missinaibi Rivers in northern Ontario. Some of these may be classed as china clays, some as fireclays, and others as ball clays. These deposits have attracted considerable interest but have not as yet been developed commercially, owing to their distance from industrial centres. In British Columbia, along the Fraser River, about 25 miles above Prince George is an extensive deposit of high-grade clay, parts of which yield a grade of china clay comparing favourably with the best found on the North American continent. Ball clays of high bond strength occur in the white mud beds of southern Saskatchewan.

No. 17. Thurs. Oct. 17, 1940 - Civil Aviation Gains.

Civil aviation in Canada continues to make great strides, the mileage flown by civil aircraft during the first three months of the current year totalling 2,474,662, of which 2,120,906 were revenue miles and 353,756, non-revenue miles. The total number of passengers carried was 32,001, exclusive of crews, and the freight transported aggregated 3,108,083 pounds, in addition to 739,082 pounds of mail.

No attempt has been made to estimate the mileage flown by civil aircraft engaged in forestry patrol, fishery patrol, surveying, advertising, school instruction, and exhibitions, but the hours flown in such services were as follows: forestry patrol 25, fishery patrol 23, photography-surveying 142, school instruction 1,235, and exhibitions 296.

An important phase of civil aviation in Canada is the transportation of freight, express, passengers and mail to the mining districts of the Northwest Territories. Modern-type aircraft now bring many areas once almost inaccessible to within a few hours flying time of large centres of population.

No. 18. Fri. Oct. 18, 1940 - Canada's Well Stocked Larder.

Although Canada has been at war for over a year, winter coming on will find her larder well stocked with good things to eat. A recent survey of food storage in the Dominion reports that with the exception of cheese and eggs the stocks of all products were higher in September this year than the ten-year average for that month.

The most important foodstuff in store is wheat. Canada had over 358 million bushels on hand in the latter part of September and there is still a large portion of the 1940 crop remaining on the farms. This amount is somewhat over 100 million bushels more than was in store at the same time last year.

Vegetables also form an important part of any larder and Canada's supply is by no means lacking. After two years of below-average potato crops, this fall an approximately normal harvest is expected. An official estimate places the production at 40,859,000 cwt., a 12 per cent increase over that of 1939. This year's crop of peas is estimated at 1,334,000 bushels which is almost 27,000 bushels above that of last year.

Besides vegetables, Canada has a large fruit storage on hand. Although the apple harvest was smaller this year than in previous years, other fruit crops are expected

to be higher. The raspberry harvest has been estimated at $11\frac{1}{2}$ million quarts, apricots and loganberries from British Columbia only were placed at 64,000 bu. and 2,312,000 pounds respectively, pears about 560,000 bushels, grapes 38,000,000 pounds and plums and prunes approximately 225,000 bushels.

Canada's meat supply, estimated in early September, showed stocks of beef and pork to be somewhat in advance of those last year at that time. Although the increase in beef was slight, there were 13 million pounds more pork on hand than a year ago.

This is only a brief summary of food conditions in Canada. Yet it should be more than sufficient to make each man count his blessings and be glad that Providence placed him on this side of the Atlantic. The figures of a similar food survey in sections of war-sick Europe would be pitifully small in comparison.

No. 19. Sat. Oct. 19, 1940 -- Race Track Betting.

During 1940, the Dominion Department of Agriculture supervised parimutuel betting at the tracks of 26 racing associations, holding 35 race meetings, comprised of 284 days racing, 2,057 races and 16,674 starters, as compared with 26 racing associations, holding 35 race meetings, comprised of 285 days racing, 2,061 races and 17,074 starters, in 1939.

The total amount wagered for the whole of Canada was \$21,355,037 as compared with \$21,695,523 in 1939, a decrease of \$340,486. Gate receipts in 1940 were \$605,095.47, as compared with \$626,023.50 in 1939, a decrease of \$20,928.03. Gate receipts do not show a true picture of the attendance as some tracks have several ladies' days on which the ladies are admitted on payment of the provincial tax only, while some tracks are quite liberal with free passes. The prize money paid in 1940 was \$1,051,824, last year \$1,070,770, a decrease of \$18,946.

Racing statistics for 1940 by provinces are as follows, the figures for 1939 being in brackets:--

Quebec--Number of days racing 56 (56), gate receipts \$31,125.95 (\$38,118.87), amount wagered \$1,427,549 (\$1,838,285), prize money \$144,200 (\$147,500).

Ontario--Number of days racing 98 (98), gate receipts \$353,746.45 (\$375,438), amount wagered \$12,859,315 (\$12,858,640), prize money \$528,400 (\$544,400).

Manitoba--Number of days racing 28 (28), gate receipts \$63,259.55 (\$67,462), amount wagered \$2,134,464 (\$2,226,603), prize money \$108,500 (\$109,100).

Saskatchewan--Number of days racing 12 (12), gate receipts \$53,171.10 (\$29,833), amount wagered \$429,894 (\$373,205), prize money \$24,500 (\$23,600).

Alberta--Number of days racing 31 (33), gate receipts \$32,070.25 (\$34,283.90), amount wagered \$1,116,227 (\$1,113,997), prize money \$62,864 (\$66,375).

British Columbia--Number of days racing 59 (58), gate receipts \$71,722.17 (\$80,887.73), amount wagered \$3,387,588 (\$3,244,793), prize money \$183,360 (\$179,795).

The largest amount wagered was at the fall meeting, at Dufferin Park, Toronto, \$1,263,742, and the smallest amount was at a one day meeting at Claresholm, Alberta, when \$464 was wagered.

No. 20. Sun. Oct. 20, 1940 -- Heart Throbs and Brain Waves -- 1.

Stringent tests to ensure that every prospective pilot, air observer, wireless operator and air gunner for the Canadian Air Training Scheme is perfectly fit for his duties are being applied by the Dominion authorities.

The brain waves, heart throbs and breathing patterns of each recruit are being studied by the Clinical investigation unit of the Canadian National Defence Department.

The research work of this unit in this new branch of medical science has aroused the admiration of military doctors and scientists all over the world.

Canada requires thousands of physically fit young men to man the fighting and bombing aircraft of the air force when they have completed their intensive training under the British Commonwealth Air Training Plan. This research ensures that the selection system for this mass production will be as sound as is humanly possible.

The Medical Selection Boards eliminate men who have certain physical conditions which from past experience are known to be a handicap to an airman. But these physical conditions are not apparent in the ordinary medical examination and so the Clinical Investigation Unit has created equipment in its laboratory which precisely simulates conditions at any altitude desired and at any degree of speed.

Special attention is paid to see if recruits have any heart damage which might be resultant from mild or perhaps unnoticed rheumatic fever in childhood. The young man with this condition might never become aware of it if he leads a normal life on the ground. But once he encounters abnormal conditions in the air the results might well be fatal. The Investigation Unit seeks out these cases not only to save a human life but in the knowledge that a failure of that life under certain conditions might well mean the loss of a £50,000 bomber, the loss of the £10,000 or so that was necessary to train a full bomber crew and the loss of the four or five highly trained members of the crew. The first class athlete with a potential cardiac condition might well succumb to the lack of oxygen he would encounter at 12,000 feet.

Ordinary clinical means will not always discover these relatively mild weaknesses of the heart but the Investigation Unit employs the electrocardiogram which produces a graphic record of the electrical activities of the heart.

Work is being done in a similar manner to find those airmen who may not be able to accustom themselves to the drastic changes of position which their air duties impose. Some men become air sick every time they take to the air, others only under bad conditions. Certain of these are so sensitive and experience such nausea and feebleness that their efficiency is dangerously impaired despite the fact that their courage would have them carry on.

The Investigation Unit is using equipment which closely simulates changes in position and thus enables authorities to weed out those who would otherwise ultimately prove unsuitable. In this way a great amount of time and money that would be spent in training these men for air duties is saved and the men are directed into different classes of work.

No. 21. Mon. Oct. 21, 1940 -- Heart Throbs and Brain Waves -- 2.

The brain as well as the heart is being studied by the Investigation Unit and

much work is being done in defining the characteristics which best fit the man to be either a pilot or a gunner or an observer.

A relatively new science, electroencephalography, has been utilized to learn about the "brain waves" of the young aircraftmen. The brain, like all nervous tissue of the body, gives rise to electrical potentials which can be "lead off" from the scalp by means of silver electrodes and amplified through vacuum tubes and recorded on moving paper by ink-writing pens attached to an oscillograph.

The electroencephalograph, in general, is to the brain what the electrocardiograph is to the heart.

This type of study is being correlated with the practical work of the gunners, observers and pilots as they go through their courses of training.

Records are also taken of the "breathing pattern" of each individual. This is done by using a simple spirometer which records the rate and depth of respiration as well as the regularity of the breathing. Specific correlations have been made on airline pilots, and it is also known that certain types of breathing are associated with various psychological and emotional states.

Every Aircraftman who goes through the Initial Training School of the Empire Air Training Scheme and consequently through the Clinical Investigation Unit gets experience and training in the low pressure chamber.

The Aircraftman, with an oxygen mask fitted to his face, enters the chamber with a trained "observer", who is always taking oxygen. Inside the chamber he sits on a padded seat and goes through many of the sensations of flying. These are created by an operator outside who varies the pressure in the chamber up to 25,000 feet, and who can "fly" them into ascents and descents. During the testing he is given practical demonstrations of when to use and when not to use oxygen. Under certain conditions vision is decreased, hearing affected and the co-ordination of movements made sluggish. It all becomes very real. The reactions of each man are recorded by the operator from beginning to end.

By such means the recruits are taught why and how to keep their ears clear, how to use oxygen equipment, the effects of the lack of oxygen, the improvement in human performance in high altitudes as a result of using oxygen, and the effects of diminishing atmospheric pressure.

It is not the purpose to attempt, as a result of these various types of investigation, to disqualify men from flying duties. It is an attempt to select them.

No. 22. Tues. Oct. 22, 1940 -- Household Storage.

All fruits and vegetables selected for household winter storage should be fully grown and free from damage caused by insects, rough handling, mechanical injury, freezing, and chilling, states R. E. Robinson, Chief, Fruit and Vegetable Field Services, Dominion Department of Agriculture, in a bulletin on "Household Storage of Fruits and Vegetables". Great care should be exercised in grading and sorting the produce for storage so as to eliminate decayed or partly decayed specimens. Samples of such products as apples, potatoes, and turnips, should be selected and cut to determine internal injury. Apples are subject to internal defects caused by railroad worm, bitter pit, core flush, corky-core, and water core; potatoes may have black

heart, mildew, blight, and internal browning; and turnips may be affected with brown heart. All fruits and vegetables with internal injury should not be stored.

Useful information in connection with successful storage is given concisely in the bulletin--how to arrange the storage room, selection of varieties of apples, potatoes, onions, cabbage, and other vegetables.

In storage, it is essential that all specimens be thoroughly dry and clean, since, if moisture is allowed to remain on the produce, decay is bound to follow. During the storage period, the fruits and vegetables should be sorted regularly and defective specimens completely removed from the storage room, as refuse if allowed to remain causes contamination of sound stock. The bulletin may be obtained by writing to the Publicity and Extension Division, Dominion Department of Agriculture, Ottawa.

No. 23. Wed. Oct. 23, 1940 -- House Plants.

Some women keep cats as a hobby, others dote on small, fluffy lap-dogs, still others fancy canaries and gold fish, and we even heard of one lady who had a peculiar yen for raising snakes. But the most universal hobby among home-makers is the raising of house plants. No home seems complete without some sort of foliage or flowering plant adorning the window sills. They seem to give the place a "lived in" atmosphere, a feeling of warmth and contentment that nothing else seems able to bestow. Now, especially, with the riotous color of the gardens fading and winter drawing near, more attention is being paid to the cultivation of plants indoors.

There are a number of different species of plants, suitable for inside growth, plants that require a minimum of attention and which lend themselves admirably to atmospheric conditions indoors. First there are the succulents, usually called cactus. These, on the whole, require little moisture, a light soil and thrive in hot rooms. The majority of these are grown for their peculiar shapes rather than for their bloom. However, there is a Christmas cactus that bursts into color about the end of November or the early part of December and blooms gaily amid the glitter of Christmas tinsel and holly. After the blooming, a rest period with little water is desirable. In this way the strength and virility of the plant is maintained.

The most common of all house plants is the geranium. It does well in sunny windows and should not be placed in large pots as it blooms better in smaller ones. Cuttings taken in summer make the best plants for winter bloom. Petunias can be treated like geraniums and are colorful house plants.

The everblooming, small flowering Begonia semperflorens is one of the most satisfactory of indoor plants. The leaves are reddish brown when grown outdoors in hot sunlight, but usually turn green in winter.

Coleus, the plants often called "Foliages" are common and should be given plenty of sunlight, otherwise they lose their color. Ferns, on the other hand, require a little direct sunshine but a hot, dry atmosphere is bad for them. They should have a rich leaf mould soil and plenty of water. They are subject to scale insect attacks and any found should be destroyed at once.

While many people devote their leisure time to cultivating house plants, a small minority prefer to keep cut flowers in the home for decoration. Last year in Canada these flowers and greens were purchased to the value of well over two million dollars. Roses were by far the most popular with carnations and tulips next in order.

However, whether the flowers in YOUR home are "home-grown" houseplants or "made-to-order" blooms from your florist, matters little. Any plant will add immeasurably to its beauty and attractiveness and provide an interesting side-line for the busy housewife.

No. 24. Thurs. Oct. 24, 1940 -- Prepare Lawn for Winter.

It is a common practice to neglect the lawn after the final mowing in the fall. There are, however, a number of operations which may be carried out to good advantage. Although the grass may be permitted to go into the winter slightly longer than the normal height, a long, matted growth is definitely undesirable. It is recommended that the turf be cut as long as it is making active growth, says J. H. Boyce, Division of Forage Plants, Central Experimental Farm, Ottawa.

The removal of weeds from the lawn is just as important during the fall as it is during the growing season. If the lawn is thoroughly weeded just before freeze-up and proper fertilization and other suitable cultural practices are started sufficiently early the following spring, future lawn weed problems will be considerably reduced.

A great deal of the winterkilling which takes place in lawns may be attributed to poor drainage, either because of smothering by standing water or ice sheets, or because of failure of the lawn to drain rapidly in the spring, thus encouraging disease. Consequently, every effort should be made to ensure proper drainage. In some cases where the subsoil is very compact, tile drains are necessary in order to provide adequate under-drainage. It is important that there are no low areas in the lawn surface. Shallow depressions may be levelled by topdressing with good topsoil. In the case of deeper hollows it may be necessary to lift the turf, build up the level of the soil to the desired height with good topsoil and then replace the sod.

All leaves and other trash should be raked from the lawn during the fall. The practice of providing winter covers of manure, straw, leaves or similar materials is not recommended, since they are not necessary and frequently do more harm than good. In addition to being unsightly, such covers tend to smother the grass, favour disease, and harbor insects. Manure and straw may contain numerous weed seeds. Leaves are particularly harmful since a mat of wet leaves will smother the grass very quickly. If manure is used on the lawn as a topdressing it should be finely pulverized and worked down into the turf so that no lumps lie on the surface. Any manure used should be thoroughly decomposed and free from weed seeds.

Several of the late fall operations are designed to combat the disease known as snow mould. The fungus causing this disease thrives under moist, cool conditions. Although it may occur in the fall, winter or spring, it is usually most prevalent in the early spring when the snow is melting. In the first stages of the disease, areas of the turf become covered with a white cottony growth. Later these areas become gray in colour and finally the affected grass becomes light brown. In serious cases the diseased turf is killed. On lawns where the disease is known to be prevalent it is a good policy to treat for snow mould in the late fall. An application of a mixture consisting of two-thirds calomel and one-third bichloride of mercury at the rate of three to four ounces per 1,000 square feet produces satisfactory results. The best way to apply this material is to mix the required amount of the mixture with sufficient dry sand to spread it uniformly over the area. Even distribution is essential. It is desirable to lightly water the lawn immediately after application. These materials are extremely poisonous and corrosive to metals, and should be handled accordingly.

No. 25. Fri. Oct. 25, 1940 -- Control of Hop-Vine Borer.

While carrying out a brief inspection of some of the hop-yards in the vicinity of Fournier, Ontario, recently, eggs of the hop-vine borer were noted in considerable numbers on green foxtail (*Setaria viridis* L.) growing in the general vicinity of the vines. This insect is fairly common during certain seasons in parts of Eastern Canada where specializing is undertaken in the production of hops and, under some circumstances, may cause considerable crop loss, says A. G. Dustan, Division of Entomology, Science Service, Dominion Department of Agriculture.

In the larval or caterpillar stage this insect reaches a length of about one and one-half inches when fully grown; it is a dirty white colour and virtually devoid of ornamentation. When younger, the borer is slightly pinkish, particularly over the back, and is variously ornamented with rose-red markings.

The eggs of the hop-vine borer are laid by the parent moth in the late summer, almost entirely on green foxtail growing in the hop-yards or along surrounding headlands. Hatching does not take place until the second week in May of the following year when the tiny caterpillars either feed for a time on various grasses or migrate immediately to hops. Injury to hops may be to the tips of the new growth, to the tender vines or, later in the season, to the roots. The last mentioned is the most important as it seriously weakens the plants and causes a reduction in the yield the following season.

The most obvious method of control, and the most effective, is a cultural one. If at the time when the eggs are being laid, that is just prior to picking, the yards are cleaned of all grass and weeds and more particularly of green foxtail, the female moths will be forced to lay their eggs in the headlands where they can subsequently be destroyed by burning the grass or spraying them with crude oil. Such a method is fairly simple in old yards but more complicated in new plantings where the young hops are frequently intercropped with potatoes or beans. To keep down weed growth to the lowest possible point in these yards it is suggested that the year before planting the ground be summer-fallowed until mid-summer and then planted to buckwheat which might be cropped or ploughed down in the autumn. The following spring the yard could be set out and during the first summer every effort made by rigid cultivation to keep down weed and grass growth. Such a practice would force the moths to seek outside the yard for suitable plants on which to lay their eggs, thus protecting the young hops from borer attack during the next spring.

No suitable control for this insect by chemical methods has as yet been devised.

No. 26. Sat. Oct. 26, 1940 -- Less Beef Being Eaten.

Consumption of meats in Canada in 1939 per head of population is officially estimated at 118.9 lb., an increase of more than two lb. per head over the 1938 consumption. With reference to individual commodities, more pork, veal and lard and less beef were consumed in 1939 than in 1938. The consumption of mutton and lamb remained unchanged. The consumption of pork per head of population in 1939 is placed at 52 lb., an increase of 4.2 lb. on the previous year; veal consumption rose from 11.8 lb. in 1938 to 12.1 lb. per head in 1939, and lard at 5.8 lb. per head showed an increase of nearly $1\frac{1}{2}$ lb. over 1938.

Beef consumption declined from 51.6 lb. per head of population in 1938 to 49 lb. per head in 1939. Although the total output of cattle in Canada in 1939 showed an in-

crease over that of 1938, exports of cattle during 1939 were almost double those of 1938. The consumption of mutton and lamb at 5.8 lb. per head of population was the same as in 1938, which in turn was one lb. less than in 1937. It is expected, says the official report, that during the next three or four years consumption of beef will continue to decline. While the numbers of cattle are continuing to increase on Canadian farms, the present tendency is to withhold stock from market for the purpose of building up herds. Pork consumption during 1940 will probably be even greater than in 1939. A very considerable increase in production over 1939 has taken place, and, although exports to the United Kingdom have increased, there will be a large supply of pork available for Canadian consumers.

No. 27. Sun. Oct. 27, 1940 Ukraine in Poland.

Reports that Germany is organizing Ukrainian units in German-occupied Poland arouse comment in both Polish and Ukrainian papers published in Canada. "Czas" (Polish Times), Winnipeg, prints messages from London, Zurich and Cracow telling of the organization of Ukrainian units in both Poland and Czecho-Slovakia. "The Germans," says the London message, "want to create hostility between the Poles and the Ukrainians and for this reason they are granting the Ukrainians so much freedom. On the other hand, they think that the organized Ukrainian battalions will be of use against Russia if necessary." The Zurich message cites reports that the German Government has brought tens of thousands of young Ukrainians into Czecho-Slovakia for the purpose of giving them military training. "The Germans," the message adds, "intend to organize a Ukrainian army and to send it against Russia in order to recuperate the Ukraine."

"Ukrainsky Holos" (Ukrainian Voice) warns against the organization of Ukrainian Nationalists. "The main thing," says Ukrainian Voice, "is that under the name of the Organization of Ukrainian Nationalists a small group of Ukrainian emigres is hiding, which has tied its political plans with those of Germany and is serving Germany... A Ukrainian who is a Canadian citizen should understand that, as his and his children's life is connected with Canada, he would cut the very branch on which he is sitting if he turns against Canada. This does not mean that he cannot do anything to help Ukrainian people overseas. He can and he should do it, but he should always take into consideration whether or not his actions can be reconciled with his status as a Canadian citizen.... He who interprets Canadian freedom as a license to cause disorder in the Canadian home, who utilizes Canadian democracy in order to overthrow the very same democracy in Canada and to impose a Russian or German yoke upon the Ukrainian people in Europe, then it is not enough to persuade such an evil-doer with calm words, to argue or to quarrel with him. It is imperative to warn the public of him, as of a pest, a fire or a Tartar invasion."

Canadians All.

Ukrainian papers generally announced unification of a number of Ukrainian associations in a central body known as "Ukrainian Canadian Committee." The purpose of the Ukrainian Canadian Committee will be fulfilment of the war efforts of Ukrainians as citizens of Canada and the co ordination of work in all common efforts of the Ukrainian people.

"Kanadiysky Ranek" (Canadian Morning) Ukrainian semi-monthly, Winnipeg: We are no more Englishmen, Frenchmen or Ukrainians. We are now Canadians, bound with common vital ties and with the spirit of sacrifice for this our beloved country."

No. 28. Mon. Oct. 28, 1940 -- Building Canadian Warships.

Almost dormant since the end of the First Great War, Canada's shipbuilding industry within a year has been brought back to capacity production to meet the needs of the Dominion war effort. Some 15,000 workmen are engaged at more than two score shipyards on the east and west coasts, along the St. Lawrence River and on the Great Lakes, constructing modern naval vessels particularly adaptable to the requirements of the Royal Canadian Navy. Ships are also being built for the Royal Navy.

The major naval programme involves the construction of about 65 sleek, speedy corvettes and some 30 minesweepers at a cost of approximately \$52,000,000. It is anticipated that by the end of the year about half of the corvettes and five minesweepers will have been delivered to the naval services.

Three fast passenger liners have been converted into armed merchant cruisers at a cost of \$1,700,000. This expense was amply justified recently when one of these cruisers, the Prince Robert, captured the Nazi express cargo vessel, the Weser, thought to be acting as a supply ship to submarines off the coast of Mexico in the Pacific Ocean.

Other merchant vessels have been fitted with equipment to defend themselves at sea and trawlers have been converted for minesweeping. Work is under way on a programme for the construction of high speed motor torpedo boats, rescue vessels, and target boats for bombing practice. A \$500,000 small boat construction programme includes refuelling scows and fast rescue boats for the Royal Canadian Air Force, aircraft and bomb loading tenders, salvage boats and other pieces of floating equipment for the handling of supplies of all kinds.

Existing shipbuilding facilities have been used exclusively and some facilities have been developed to permit enlarged operations where shipbuilding workers and technicians are available.

No. 29. Tues. Oct. 29, 1940 -- R.C.A.F. Engine Mechanics.

A fighting aeroplane with a balky engine is as useless as a crippled duck. Lack of engine power might leave the crew helpless before the foe in battle or might plunge them into the sea or into rough inhospitable country on a long flight.

Royal Canadian Air Force pilots, Air Observers and Air Gunners have a warm regard for the highly skilled Aero Engine Mechanics of the R.C.A.F. who keep the aeroplanes serviceable. Their work is unspectacular, but just as important in its way as the work of the trained men who fly the planes. A crew charged with taking a bomber 400 miles out over the Atlantic on convoy patrol, for instance, must be sure that the engines will maintain a steady, rhythmic roar and not falter and fall into silence when a landing field is over the horizon.

The powerful engines of R.C.A.F. receive all the care and attention of thoroughbred racehorses. Engines are inspected before and after flight, and any worn parts immediately replaced. Valve clearances are carefully checked and everything possible done to keep the engines and controls in perfect condition at all times. At regular intervals of 300 or 400 flying hours, the engines are temporarily removed from service for a complete overhaul. The engines are taken apart, cleaned, and all parts minutely inspected for flaws and for signs of wear. Any worn parts are replaced and the engines are reassembled and tested on a test stand before being placed back on their

mountings in the aircraft.

The modern aircraft engines are complicated pieces of machinery, and their care and maintenance require careful training out at the R.C.A.F. Technical Training School at St. Thomas, Ont., which has turned out some 1,500 mechanics of all types so far and is turning out 150 more each week.

The aero engine mechanics course lasts about 18 weeks and provides a practical education in the craft for Canadian Boys, many of whom come from garages and technical schools all over the country, so that they have a trade to work at when the war is over.

No. 30. Wed. Oct. 30, 1940 --- Control Marten Trapping.

With a view to protecting the marten against extinction, new regulations governing the catch of this valuable fur-bearer will go into effect in the Northwest Territories on July 1, 1941. The new ruling will establish a limit per trapper of two marten per year in Wood Buffalo Park, and in the area south of the Liard and Mackenzie Rivers, Great Slave Lake, Lockhart River, Artillery Lake, the Thelon Game Sanctuary, Beverley, Aberdeen, Schultz and Baker Lakes, and Chesterfield Inlet. North of this line the annual limit will be twenty animals.

Before trapping marten, trappers will be required to secure annual permits which will be issued without charge to holders of Northwest Territories trapping licences and to natives entitled to trap without a licence. The trappers are required to return these permits and present all pelts taken under them to a Royal Canadian Mounted Police post before June 30 following the date of issue. The pelts will then be marked and returned to the trappers. The regulations also prohibit traders from accepting unmarked pelts. This system has been in vogue for some years in the control of beaver trapping.

The annual marten catch in the Northwest Territories, which averaged more than ten thousand pelts annually in the ten-year period preceding 1930, has decreased to an alarming extent. In 1939 the take was only 3,791 pelts, which reduction is attributed to extensive forest fires and intensive trapping. As the pelts are valued at about \$25 each the light catch has meant reduced revenue to trappers. It is hoped that the new regulations will result in an increase in the number of marten in the Territories to the ultimate benefit of the native population.

No. 31. Thurs. Oct. 31, 1940 - Hallowe'en.

I am the ghost of
John James Christopher Benjamin Bimms!
I was cut down right in the midst of my sins!
I've come up from down below,
I'll be off for an hour or so,
But when the cock begins to crow
Farewell! to Benjamin Bimms!!

Hallowe'en! --- the one night a year when hobgoblins and witches, elves and imps, reign supreme, when ghosts and bats flit about with a clear conscience, and black cats wail on unmolested by mortal man. For sooth, humanity this night is forced to bow

humbly and submit to the influence of the forces of the darkest nether regions, while all manner of mystical things transpire.

The superstitions associated with All Hallow's Eve date back to early pagan times when folk were great believers in the supernatural. Originally, great feasting and celebrating went on for several days in honour of Pomona, the goddess of fruits. Fruit is still an important part of our Hallowe'en festivities.

Different customs prevail in various countries in connection with October 31st. In northern England it is known as Nutcrack Night, while in Yorkshire it is Cake Night. The ancient Scottish ceremonies on this "nicht" were filled with mystery and witchcraft. Burns, in his poem 'Hallowe'en', aptly describes the traditions that prevailed in his day in Scotland.

In days of old it was a common belief that a child born on Hallowe'en Day was bound to possess the faculty of perceiving and holding converse with supernatural beings. In some sections of the world that wierd idea still runs rampant. In still other parts of the globe this day is set aside as an occasion for visiting cemeteries and laying flowers on graves of relatives and friends.

Here in Canada, this is a big occasion for the youngsters. Today, all across the wide expanse of this Dominion, in cities and hamlets, children will be dressing themselves in queer costumes, eating pumpkin pie and going from door to door yelling "Trick or Treat!" or "Hallowe'en Apples!"

Apples have long been associated with Hallowe'en, and ducking for them in tubs of water, or eating them off a string is all part of the day's fun. This year Canada's apple crop is somewhat smaller than it has been in previous years, but there will be no shortage of the fruit for Hallowe'en celebrations. Estimates now place the apple crop at approximately 3,858,000 barrels, which is about 1,935,000 barrels short of the 1939 output.

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DEPARTMENT OF
TRADE AND COMMERCE



A FACT A DAY ABOUT CANADA

FROM THE

DOMINION BUREAU OF STATISTICS

NOVEMBER 1940

SEVENTH SERIES

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James Muir,

Editor.

from the

Dominion Bureau of Statistics

No. 32 -- Fri. Nov. 1, 1940 -- The Strawberry Patch.

In everything we have and in everything we do we should bear in mind that Canada is at war. Even a basket of strawberries is important.

Many a promising strawberry patch has failed to produce satisfactory results simply because proper care was not taken to protect the plants during the winter months.

This year, because the growing season was not conducive to good runner development and early runner plants were late in rooting down, strawberries are particularly in need of adequate winter protection.

Mulching will prove to be an invaluable aid in overcoming winter hazards. The chief purpose of a mulch is to prevent repeated freezing and thawing, or "Heaving" of the soil, which may injure or break the roots of the plants. It also protects the plants from extreme temperatures and drying winter winds. Mulches are valuable in the conservation of soil moisture, checking of weeds, and keeping the soil and berries clean during the time the plants are bearing.

It is a common practice among growers to apply the mulch in the late autumn, after the ground is frozen. While this may be the most convenient time it may also be too late to protect the plants from early frosts which can be extremely injurious. Repeated experiments have shown the early part of November to be about the best time to apply a mulch, so that both crowns and roots may be fully protected.

The most effective material for mulches is clean dry straw, free from weed seeds, which are apt to sprout in the spring and choke out the plants. If this is spread over the patch to a depth of about two inches, no damage will be incurred through the vagaries of a normal Canadian winter.

Canada's strawberry production was over 28 million quarts in 1939, and the preliminary estimates for this year show a decrease of almost two million quarts, the reduction centering largely in the province of Quebec.

No. 33 -- Sat. Nov. 2, 1940 -- Record Silver Fox Production.

Silver fox production in Canada during 1938-39, amounting to 319,693 pelts valued at \$5,660,722, was the greatest ever recorded in the history of the Canadian fur trade. The silver fox is Canada's most important fur product, and comes almost entirely from the fur farms. The low average price of \$17.71 per pelt should bring this popular fur within the reach of most Canadian women, and is a far cry from the early days of fox farming when there were comparatively few farms and the supply of ranch-bred animals was limited. At that time fabulous prices, amounting to as much as \$35,000 per pair, were paid for the live animals that were required as breeding stock, but now that the fur farming industry is fairly established and contributing about 40 per cent of the Dominion's raw fur production the animals are raised primarily for their pelts.

For many years fur farming was concerned principally with the silver fox, but in recent years mink raising has become an important branch of the industry. Mink pro-

duction has advanced rapidly reaching a total of 220,359 pelts valued at \$2,103,774 in 1938-39, an increase of 80,619 pelts and \$703,187 over the preceding season. It is estimated that 40 per cent of the number of mink pelts and 50 per cent of the total value represent sales from fur farms. Other kinds of fur-bearers--red fox, cross fox, blue fox, raccoon, skunk, marten, fisher, fitch-- are also found on the farms, and recently the valuable chinchilla, a native of South America, has been added to the list.

The total value of Canada's raw fur production, including pelts taken by trappers and those sold from fur farms, in the 12 months ended June 30, 1939, was \$14,286,937, an increase over the 1937-38 season of \$1,090,583. Ontario with \$2,538,658 and Quebec with \$2,230,280 were the leading provinces with respect to value of raw fur production. New Brunswick, Alberta, Prince Edward Island, the Northwest Territories, Manitoba and British Columbia followed in the order named, each with a value of more than a million dollars. Saskatchewan's fur output was valued at \$983,447, and that of Yukon Territory at \$267,721.

The total number of pelts of all kinds taken in 1938-39 was 6,492,222 as against 4,745,927 in the preceding season. Muskrat and squirrel accounted for the greater part of this increase, the number of muskrat pelts totalling 2,295,550 as against 1,748,239, while the catch of squirrels amounted to 2,296,139 compared with 1,244,359 in 1937-38.

No. 34 -- Sun. Nov. 3, 1940 -- Skis Made in Canada.

Although the sport of ski-ing originated in Northern Europe, and at one time all skis were imported from there, Canadian skiers and visiting winter sportsmen are assured of an adequate supply of ski equipment. The closing of the foreign source of supply owing to the war need not affect Canadians as in recent years a progressive Canadian industry has been developed which manufactures ski equipment sufficient for domestic requirements as well as a surplus for export.

The modern ski has some three thousand years of interesting development behind it, but the first historical mention of skis dates from the sixth century. At that time the Vikings were using "suski", or snow glide shoes, for winter travel. These ancient skis were short, wide boards, covered with seal-skin to grip the snow and to make climbing easy, but for downhill travel they could have been little better than the snowshoes of to-day. Later, this difficulty was overcome by using one skin-covered ski or "andor" and one runner of polished wood, the skier balancing himself on the runner with the aid of a long heavy pole for the descents. The next improvement was the use of two wooden runners, but the early patterns of this type were turned up at both ends so that, if one point were broken, the ski could be reversed--the Norseman's equivalent of the modern spare tire.

Nowadays skis are made in several patterns to meet special uses, such as jumping, racing, or general purposes. The favourite materials used in making them are hickory, ash, maple and birch, all of which have the qualities of toughness, flexibility, and hardness in varying degrees and combinations. Hickory, for example, makes a strong hard-wearing but rather heavy ski, ash makes a relatively light ski, while maple skis are reputed to be very fast.

Experiments in making a laminated ski composed of layers of different kinds of wood glued together in order to produce a stronger, more efficient ski with less waste of material were conducted by the Forest Products Laboratories of Canada as far

back as 1924. Although there have been many improvements in laminated skis since that time, the basic principle has been proved sound and skis of this type are becoming increasingly popular.

No. 35 -- Mon. Nov. 4, 1940 -- Official Languages.

One interesting sidelight which analysis of the data from the 1931 Census has shown is the respective capacities of rural and urban people to speak the official languages; it is especially interesting to compare the proportions of them who are able to speak both languages and also the proportions unable to speak either. About twice as many speak both French and English in urban localities as in rural localities, and about three times as many of the latter as the former speak neither of these languages. There is, of course, greater opportunity for intermingling in urban residence than rural, and probably also greater necessity for acquiring the official languages in urban occupations. The obvious conclusion or expectation would be that larger proportions among the urban populations than among the rural have acquired both official languages. But other factors enter into the question, since the acquisition of both official languages is as much a matter of capacity to acquire them as of opportunity, intermarriage, necessity, and so on.

In the Census of 1931, 1,322,370 persons were reported as speaking both the official languages of Canada, 6,999,913 speaking English, 1,779,338 speaking French and 275,165 as unable to speak either English or French. In a table on p. 121 of the 1936 Year Book the population was classified by racial origins and as able to speak one, both, or neither of the official languages.

No. 36 -- Tues. Nov. 5, 1940 -- More About Air Training.

The period of training for pilots, observers, and air gunners under the Empire Air Training Scheme in Canada is to be reduced still further to enable the men to have "operational training" in Britain under war conditions.

In a recent statement the Dominion's Air Minister, the Hon. C. G. Power has pointed out that the training period at the advanced training schools in Canada was first scheduled to be 16 weeks for each student. It was cut to 14 weeks and now it is being further reduced to allow longer post-graduate training overseas. This further acceleration in the Air Training Plan now being worked out has been made possible because Canada now has ample training facilities, elementary schools and planes, to handle a larger number of men than originally planned. Also, the additional "operational training" to be given in Britain fits into this stepped up scheme.

The output of pilots, observers and air gunners under the British Commonwealth Air Training Plan in Canada will therefore be considerably increased. While originally the plan was laid down to turn out approximately 22,000 airmen annually, when the plan reached its full scale operations, Major Power stated that, as a result of the recent acceleration, over 30,000 airmen of the three types will be turned out in a year.

Mr. Power also explained that more Canadian recruits can now be taken in and trained, and, also, more Australian and New Zealand pilots, who have taken their elementary training at home, can be given their advanced training in Canada. With more men to be taken into the Canadian elementary training schools, all of which are carried on by civilian training companies, additional barrack buildings and other accommodation will

have to be provided. There is no shortage of planes for the elementary training stages, while the planes for the more advanced training period are constantly being delivered.

The first batch of Australian pilots to arrive in Canada is now being given advanced training. Other groups of Australian and New Zealand pilots, in larger number than originally expected, will continue to arrive in Canada in the ensuing months.

In a later statement Major Power said that the Empire Air Scheme was six months ahead of schedule and by September 1941 all units would be fully operating. Three quarters capacity would be reached before long and twice as many airmen would be going overseas.

No. 37 -- Wed. Nov. 6, 1940 -- Orillia.

H.M.C.S. "Orillia", it should be explained, is one of the sixty corvettes now being built in Canada for the Canadian Navy. She is 205 feet in length, has a speed of 17 knots, and will be primarily employed in submarine chasing and mine sweeping.

And Orillia, the town, gave Orillia, the corvette, a hearty send-off. Four of the ship's officers were guests of the "Orillia" Corvette Association at a dinner at the Old Home.

Mayor Pack, on behalf of the municipality, made the presentation to the "Orillia" of a handsome silver tea service and a pair of massive silver candelabra. This gift was in accordance with the British tradition that the town after which a ship of the Royal Navy is named should make a present of silver for use on formal occasions. The set consisted of a large tray, with tea and coffee pots and sugar and cream dishes in Rogers' silver. The tray was inscribed with the words: "Presented to H.M.C.S. 'Orillia' by the Town of Orillia." Each separate piece also bore the name H.M.C.S. "Orillia".

Round the edge of the tray there was a clear space on which the names of the officers of the "Orillia" as they may succeed one another, can be inscribed for many years. This service will not accompany the "Orillia" on war service but will remain stored at her home port, where it will be available whenever the ship is there.

Lieut. Briggs, officer commanding the "Orillia", had mentioned that books would be appreciated on board.

Within 36 hours, 360 volumes were gathered and delivered to the "Orillia".

Among the books were fifty from the Orillia Public Library, the Directors having agreed to make the "Orillia" a branch library. The arrangement is that as these books are read they will be replaced with others from time to time, on requisition of the ship's librarian. Thus is the "Orillia" made an outpost of the town.

The next task of the Associates is to provide the crew with additional garments to protect them from the rigours of a winter at sea--such as socks, sweaters, helmets, etc. This has been greatly facilitated by the gift of twenty-two sweaters and forty pairs of socks from the Girls' Red Cross.

A Tag Day provided \$250 towards the cost of materials.

It is expected that other towns will similarly adopt corvettes named after them.

No. 38 — Thurs. Nov. 7, 1940 — Poland on the Rack.

Systematically, ruthlessly, Germany is endeavouring to stamp out the spirit of free Poland. There are over 115,000 people of Polish origin in Canada who will be much concerned over the conditions in the land of their fathers.

In the western provinces, already incorporated in the German Reich, persecution is unabated, often intensified. Towns have been thoroughly Germanized, even their names changed. In certain districts of Pomorze, says the Polish Ministry of Information in London, the Polish population has been compelled to change the Polish inscriptions on tombstones into German. Poznan is being thoroughly refashioned in order to remove all traces of its Polish character. The city is red with Nazi flags. The Kochanowski memorial outside the Cathedral has been blown up with dynamite, the cross at Chwaliszew has been thrown into the river Warta, the houses close to the townhall are to be pulled down, the left side of St. Martin's street is also to be demolished, in order to open up the view of the castle, which was built during the previous German occupation. In the restaurants and cafes the Poles are completely isolated from the Germans, being restricted to the lower class of shop. The Germans make periodical inspections to ensure that this ban is observed, and anyone found violating it is at once deported to Germany. Only Germans are allowed to use the swimming baths and to bathe in the river Warta. Above the entrance to the Franciscan church is a notice stating that only Germans may enter.

On the day Italy declared war a procession of German youth marched through the streets of Poznan, many of them dressed up as leading British, French and Polish politicians, Polish soldiers and priests. Any Poles who happened to pass were insulted and beaten up, the police making no attempt to intervene.

In the prison on Mlynska Street executions are carried out by beheading, even for such petty offences as taking articles such as pillows from one's own home. Lists of those executed are posted every fortnight, but they are not complete.

For the past two months round-ups have been taking place in the streets; those detained are required to show proof that they are in employment. Anyone who does not possess a certificate of employment or whose certificate is not in order is at once deported to Germany, where labour conditions are extremely bad.

Polish workers' wages are half those of Germans. The social insurance office pays 16 marks weekly for such heavy labour as stone breaking or rolling barbed wire. Germans on the other hand receive sixty marks for much lighter labour. Two per cent is deducted from the Polish wages for a 'Reconstruction Fund' and a further one to two per cent under various other pretexts.

Five German schools have been opened for children from seven to thirteen. Teaching is limited to two hours daily. Children over thirteen are being deported to Germany.

126 parishes have been deprived of their vicars, in many districts churches have been closed. In Poznan five churches and chapels have been closed and there are grounds for fear that the Cathedral may be demolished. A large number of priests have been deported. Masses may be celebrated publicly only on Sunday from 7 a.m. to 10.30. On weekdays masses are celebrated privately. Bishop Dymek has been imprisoned. All the

priests of 35 and upwards have been deported to work in Germany, or to Austria, or to Dachau concentration camp. The monasteries have been closed, the monks dispersed. Only the Nuns of St. Elizabeth, whose headquarters are at Breslau, still remain. In Mogilansky district the people must have tickets in order to attend church. In Opalenica the churches have been closed 'owing to rabies.' Services and confessions have to be conducted in German. In certain districts the priest grants general absolution to those who do not speak German.

No. 39 -- Fri. Nov. 8, 1940 -- The Fleet Air Arm -- 1.

The Fleet Air Arm, like the rest of the Royal Navy, is a "silent service" and the public, as a rule, hears little of its work. But, because of its special value as a mobile striking force, the Fleet Air Arm is playing a big part in this war -- particularly in the Mediterranean.

Fleet Air Arm warplanes whose names may soon become as familiar as Spitfire and Hurricane, are destined to play a decisive part in the Mediterranean battles.

Their homes are floating aerodromes -- the decks of our several aircraft-carriers now serving somewhere over the thousands of miles between Gibraltar and Port Said.

The vastly improved Fleet Air Arm is face to face with its first really big chance. It has now in service in substantial numbers at least two fine fighters who will be to the Fleet in the Battle of the Mediterranean what the Spitfires and Hurricanes have been to Britain at home.

The latest is the Fairey Fulmar, which is larger than the Hurricane, but otherwise looks somewhat like it. Its speed, while not equal to that of the land fighters, is considerably greater than anything hitherto known in naval aircraft.

This in itself is a big step forward, for, remember, a sea fighter must always be a compromise between speed and ability to land on the limited space afforded by the deck of an aircraft-carrier.

This deck-length is about 700 feet. Landing must be made in much less distance than that if a safe margin is to be allowed for error in descending on a floating and possibly wave-tossed and fast-moving drome.

The Fulmar must alight at much less than the 60 m.p.h. at which the Spitfire lands in a space of something like 900 feet.

This newest naval plane, with unusual speed for a sea fighter and very powerful armament, is certain to make Mediterranean headlines.

So will the Blackburn Roc, by only a few months older than the Fulmar, a two-seater fighter with wing guns and moveable gun-turret amidships.

Both these new sea fighters are monoplanes, like the earlier Blackburn Skua, the first single-winged all-metal machine to go into naval service.

Aircraft-carrier landing limitations were chiefly responsible for the retention in the naval air arm of the slow, easily manoeuvrable, but now largely obsolete bi-plane fighter.

It gave inadequate air protection to the Fleet against the fast land bombers, and still less against land fighters, with speeds of anything from 300 to 400 m.p.h.

No. 40 -- Sat. Nov. 9, 1940 -- The Fleet Air Arm -- 2.

The biplane as a torpedo-dropping bomber, as a "spotter" to help direct warships gunfire, and as a reconnaissance machine still survives in the Fleet Air Arm's Swordfish, in its successor the Fairey Albacore, and in the still formidable land Gladiator now handed over to the Navy in large numbers and equipped for deck landing.

These maids-of-all-work, Swordfish, Albacore and Skua, do not hurl their 1,500 lb. of torpedo at a target so much as they hurl themselves.

They descend to about 4,000 feet, then power-dive almost vertically to a few hundred feet from their target at which point the torpedo is released.

They are still more than a match for enemy naval dive-bombers. They have already done admirable work against Mussolini's cotton-wool fleet whenever it has shown itself outside its harbours.

They gave fine service at Calais and Dunkirk, both at the evacuation and in covering the inland retirement of the B.E.F. and French Forces.

In the Norwegian operations the service they rendered the Fleet and Army equalled that given by the R.A.F.

One day the full story will be told of how that famous magnetic minefield was laid in the Baltic by the Fleet Air Arm and the R.A.F.'s bombers in order to imperil and sink Nazi warships and transports bound from north Germany for Norway.

When it is told it will contain an almost incredibly heroic chapter about the feats of the F.A.A.'s Swordfish.

Their average cruising speed is only about 120 m.p.h., and, when huge tanks carrying petrol for the long journey and equally huge magnetic mines were fitted into them, their speed was reduced to little more than 80 or so miles an hour.

Pilots and observer-gunners sat perilously over petrol and high explosive, and dawdled through the hostile air, dead easy game for enemy fighter, bomber or "ack-ack".

German minefields in the narrow seas of the Skagerrak and Kattegat barred the way for British mine-laying vessels to the Baltic. But an Admiralty communique read: "Mines have been laid in the Baltic".

With the R.A.F.'s bombers, the deathless sailor-airmen heroes of the Fleet Air Arm's Swordfish had been to the Baltic - at 80 or so m.p.h!

They are the men whom the Italians will increasingly meet over the blue waters of the Mediterranean in the coming months. Only, this time they will be in speedy Fulmars and Rocs, and much else, as well as in Swordfish!

No. 41 Sun. Nov. 10, 1940 - Course for Ski Units.

Concealment and camouflage, woodcraft, making of shelters, lighting fires under unfavourable circumstances, and the care of skis, harness and weapons form part of the three weeks' course now being given by the Canadian Army's advance class of instructors at Lansdowne Park, Ottawa.

Troops, scout and patrol movement in snow-covered terrain rather than the fine points of skiing is being concentrated on. Practical work includes long cross country patrols and a night spent in the field before the school closes on December 21.

It is not expected to develop finished ski troops, nor is this the objective, but rather to teach troops to move on skis so that they may be able to operate and not become immobilized by snow.

Instruction in individual units, in camps and other centres will begin after the new year, and assistance and cooperation has been offered by numerous ski clubs and their instructors throughout the country.

Lieut. T. P. Gilday of the Grenadier Guards, Montreal, latterly of Sudbury, Ont., outstanding for his cross country work, is chief instructor. Personnel includes Capt. W. R. Eakin, Victoria Rifles, Camp Borden; Lieut. H. E. Long, 1st Midland Regiment; Lieut. C. F. Reiffenstein, Governor General's Foot Guards; Lieut. A. H. Cooper, Saskatchewan Horse; Lieuts. S. M. Lett and W. G. Fawcett, Queen's Own Rifles; Lieuts. J. M. Lindsay and G. W. Burnside, R.C.A. Winnipeg Training Centre; Lieut. G. O. Tucker, R.C.A. Calgary; Lieut. F. H. Cundill, Infantry (Rifle) Training Centre, Aldershot, N.S.; Lieut. J. D. Learmont, North Nova Scotia Highlanders; Lieut. T. C. MacWilliams, New Brunswick Rangers; Lieut. J. D. Oliver, Frey & Simcoe Foresters; Lieut. J. D. Harwood, Grenadier Guards; Lieut. J. Francis, Lake Superior Regiment; Lieut. W. T. Richardson, No. 2 Infantry (Rifle) Training Centre, Camp Borden; 2nd Lieut. G. T. Harris, Edmonton Fusiliers; 2nd Lieut. H. H. Gunter, Halifax Fortress; 2nd Lieut. J. M. Guay, Infantry (Rifles) Training Centre, Valcartier; 2nd Lieut. F. C. Delahey, Irish Regiment; 2nd Lieut. T. J. Wilmot, Governor General's Foot Guards; 2nd Lieut. W. J. Salter, No. 1 Infantry (Rifle) Training Centre, Camp Borden; Lieut. A. C. Stewart, Stormont, Dundas and Glengarry; Lieut. N. H. Welsh, Sherbrooke Fusiliers.

Sgt. J. A. Bailey, R.C.A. Winnipeg Training Centre; Pte. V. A. Johnston, Edmonton Fusiliers; Spr. N. Viminits, 14th Field Company, R.C.E.; Spr. K. G. Olsson, 10th Field Co., R.C.E.; Sgt. W. H. Howard, North Nova Scotia Highlanders; Spr. I. L. Eivenmark, 6th Field Co., R.C.E.; L/Cpl. J. A. York, 16th Field Co. R.C.E.; Pte. C. Gunnarson, 1st Canadian Scottish; L/Cpl. J. Lebrun, 19th Field Co., R.C.E.; L/Cpl. R. T. Armitage, Royal Regiment of Canada; Pte. J. J. Ovens, Grey & Simcoe Foresters; Pte. F. Raitz, Irish Regiment; Sgt. L. E. Warr, Grenadier Guards; Sgt. Hebert, Midland Regiment; Cpl. R. K. Heise, Victoria Rifles; Pte. J. A. Houston, Toronto Scottish; Pte. I. O. Meyers, Saskatoon Light Infantry; Cpl. H. J. Hayward, Stormont, Dundas and Glengarry; and Pte. Milne, Sherbrooke Fusiliers.

No. 42 Mon. Nov. 11, 1940 - Why Britain Will Win - 1.

This is Remembrance Day and perhaps there could be no more appropriate thing to say on this day of days than to repeat what Arthur Wauters, the famous Belgian statesman and writer has said:

"Hitler's military victories achieved, for a time, a double psychological result.

The German people were filled with faith in a magician who was re-shaping Europe, as though invested with a mysterious power. On the other hand, some superficial neutral onlookers began to be convinced of the invincibility of Nazi Germany.

"The Allies, perhaps unwittingly, contributed to establishing this childish belief by complacent descriptions of the war methods of the German armies in the first period of the war. They did it, of course, with the praiseworthy object of stimulating the will of resistance and readiness of sacrifice of the democratic masses.

"The psychological effect of the German successes has been increasing in geometrical progression. Hitler has kept his promises of victory with mathematical precision. He had announced that he would be in Paris on June 15. He was there.

"But it may be doubted whether the process of collective bewitchment will have a lasting effect.

"Hitler announced that he would be in London on August 15. He failed to keep the appointment.

"He himself thus furnished the proof of the vanity of some of his boasts. Those who had been intoxicated by German propaganda are baffled. They are beginning to make historical comparisons. There is no need to go back very far in time. Kaiser Wilhelm's Germany collapsed almost immediately after achieving indisputable military triumphs.

"The Fuehrer's thirst for conquest is now encountering some obstacles. The time for easy successes is past."

No. 43 -- Tues. Nov. 12, 1940 -- Why Britain Will Win - 2.

In the neutral country which I left for London a month ago, the most absurd stories found credence in defiance of all human intelligence. It was whispered that Britain's fate would be sealed within three weeks or that 45 millions of starving and terrorised Britons were spending their lives queuing up for a problematic crust of bread in the daytime, and with collective lamentation in the underground shelters at night. Britain, it was said, was no more than a heap of ruins. The electric power stations were destroyed, the largest city in the world was plunged in darkness. Transport was paralysed. A desperate people was in revolt against its leaders. The Empire was collapsing.

I am writing these lines in London where the roar of the greatest air battles in history reaches our ears. The German 'planes are being brought down by the magnificent pilots of the Royal Air Force at the rate of five to one and sometimes of one a minute. The power of the Empire is unimpaired. In spite of the self-styled German "blockade", millions of tons of merchandise reach British ports week after week.

The shops are overflowing with goods. There is a certain amount of rationing, but it does not interfere with anybody's good supply, nor does it diminish any workman's productive capacity. Astonishing quantities of produce are accessible to all: coffee, oranges, bananas, grape fruit, tropical nuts, pepper, tobacco, olives, and what not.

There is something disconcerting about the calm and coolness of this great people. It is due neither to indifference nor to passivity. With it the sense of national co-

operation reaches a prodigious degree. Each one is mobilized either organically or morally. Each is doing his work with orderliness, calm and discipline. There is neither haste, nor precipitation, nor panic. Everyone applies rules strictly and encourages everyone else to do likewise. Vigilance never relaxes. Britain is not invaded, but everyone behaves as though invasion might come at any moment. This people will in no circumstances be taken by surprise.

"A sporting people, the British are counting the blows and taking stock impartially of their reverses and failings, not to be disheartened by them, but to correct them. Nothing is left to chance or to improvisation.

"Britain gives the impression of a powerful up-to-date machine, whose flawless, well-oiled march proceeds noiselessly and without a hitch. Everyone knows what he has to do. And he, or she, will do it at the right time.

"There is complete, trusting and eager co-operation between the public and the authorities.

"German propaganda will not change this nor diminish in the least the calm and self-conscious force of this great free people."

No. 44 -- Wed. Nov. 13, 1940 -- Why Britain Will Win -- 3.

It is a significant fact that, in spite of ephemeral triumphs, the German people need to be drugged by false news. In Britain German communiques are published daily in full. Anyone can listen freely to Nazi broadcasts, if he happens to want to do so.

The democratic liberties are fully respected. The Press comments on Government action with a surprising frankness. Parliament, whose powers are supreme, continues to sit whenever there is business to transact.

These things are, to my mind, one of the essential guarantees of Britain's coming victory.

The officially inspired optimism of the countries living under a system of censorship lull the fighting spirit of the citizens to sleep. A flood of reassuring but often unfounded statements act like chloroform upon them.

The British people are conscious of the fact that they have never been invaded for the last 900 years. They are not oblivious to the unsuccessful attempts made successively by Philip II, Louis XIV and by Napoleon. They know that 200 or 250 ships would be needed to land five divisions. They know that they will never be betrayed by that ally which always keeps faith with them: the sea. They know that their ships are sailing the seven seas and using thousands of ports all the world over, whereas the German and Italian mercantile fleets are confined to coastal traffic in the Baltic and the Adriatic.

They know that in defiance of the furious attacks of the German Luftwaffe, the Royal Air Force is daily delivering its blows on Germany, on Turin, on Milan, on Libya, wherever it cares to strike.

They also know that the United States is on their side.

They realize that those who were unable to prevent the heroic re-embarkation of Dunkirk are now faced with the incomparably more formidable task of attempting the same operation in the opposite direction.

They know that the whole Empire, without exception, constitutes one solid rock.

Nor do they forget that two thirds of the peoples subjected by Germany are not Germans at all, and that the terrible fire of vengeance which is now smouldering in the hearts of the oppressed nations will burst into flame at the right moment.

As a citizen of an indomitable nation, I know that, in spite of professional traitors and place-seekers, the whole of Belgium constitutes a column in the service of democracy and liberty. The beloved spirits of Cardinal Mercier, of Burgomaster Max, of King Albert, of the heroic workers who were deported for refusing to work for the Germans, accompany us in our effort and inspire us with hope.

Britain and with her the permanent values of mankind will triumph.

No. 45 — Thurs. Nov. 14, 1940 — Three Cheers for the Red, White and Blue.

With Britain shedding her life blood in the cause of freedom and right, at no other time in the history of the Empire has the national flag been more in evidence. At no other time has it been so imperative that we as Canadians and part of the mighty unit that is the British Commonwealth of Nations be thoroughly acquainted with our emblem and its proper and dignified use.

Here are a few simple rules regarding the observance of the correct procedure, as outlined by the Imperial Order of the Daughters of the Empire:

1. The Union Jack is the official flag of Canada, and should be the one flown in Canada.
2. The Red and Blue Ensigns, with the Coat-of-Arms of Canada in the fly, are intended for use afloat and on official buildings outside of Canada. They are not correctly used on buildings in Canada.
3. The flag should not be hoisted before sunrise, nor allowed to remain up after sunset.
4. In hoisting the flag the broad white stripe in the cross of St. Andrew should be above the red stripe of St. Patrick on the side of the flag next the mast head; if reversed, it is an indication of distress.
5. The flag should always be carried upright and not allowed to touch the ground.
6. When placed at half-mast the flag should first be raised to the mast head and then lowered.
7. When used for indoor decoration the flag should never be below a person sitting.
8. It should never be used as a cover for table, box or desk except at a military religious ceremony, and nothing should be placed on it, except the Bible.

While these concise instructions regarding the use of the flag are important, its red, white and blue has another and deeper significance, today, as was aptly expressed by Hon. Angus L. Macdonald, our Minister of National Defence for Naval Services. He says "We shall see Britain triumphant, and long after the name of Hitler has become nothing but an unpleasant memory, the same flag which now waves over disordered heaps of crumbled brick and stone and mortar, will be flying freely and proudly in the airs of Heaven, sheltering liberty and justice and freedom and truth in its benevolent shade. That is the lesson of the flag flying over the ruins of British homes."

So, Carry on Britain! We'll never let the old flag fall!

No. 46 -- Fri. Nov. 15, 1940 -- Canada's Air Eyes.

The candid camera of wartime flies high over the battle lines, and there is none more skilled in this science of aerial photography than the men trained by the Royal Canadian Air Force.

An infant science in the first war, aircraft photography is a highly efficient source of military intelligence today. Aircraft flying at great heights can photograph large areas of hostile terrain with meticulous detail. Infra-red filters on the camera lenses pierce the war dust and the haze. Photographs provide mosaic maps vital to the planning of an offensive thrust, reveal gun emplacements, munitions dumps and troop concentrations, and show clearly the result of artillery fire and bombing raids. Trained officers studying an enlarged aerial photograph can often see through the sham of camouflaged military secrets.

The Canadian government realized the possibilities of aerial photography, born in the first great war, shortly after that conflict ended. The result was that for the past quarter-century R.C.A.F. detachments have been developing the science and improving their technique by photographing from the air large areas of Canada for mapping purposes.

A fireproof vault out at Rockcliffe air station, on the outskirts of Ottawa, holds more than 1,000,000 negatives of Canada from a bird's eye view. More important than mere mass production, however, is the technical progress the R.C.A.F. Photographic Establishment has made in the science.

Now that there is a war on, all the experiments, the development of equipment, the lessons of experience, come to fruit. The pioneers, the veterans who cruised the clouds over Canadian lakes and forests in the interval between wars, are teaching scores of youngsters the mysteries of aerial photography, at the Photographic school of the R.C.A.F. The costly equipment developed through the years is at the disposal of an air force suddenly placed on war footing.

The latest model of aerial camera is automatically controlled from the pilot's cockpit. This is the type of camera used aerial mapping to take strips of related photographs. Pointed downward through an opening in the floor of the aircraft, the camera is entirely operated by remote control. The pilot sets the camera to take a picture, say every 15 seconds. When he has set the aircraft on the desired course the camera does the rest. A light gives him five seconds warning before an exposure to keep the aircraft on true course and level with the horizon. A light flashes when the picture is snapped, then there is a 10-second interval before the next "shot".

The Ottawa establishment is the photographic headquarters of the R.C.A.F. It not only supplies the trained personnel for the darkrooms of squadrons sent overseas,

the instructors and technicians of the training school and photographic detachments, but it is the fount of technical knowledge and development and the source of supply for films, chemicals and accessories.

No. 47 --- Sat. Nov. 16, 1940 --- Windbreaks Mean Trees.

Everyone has experienced the comfort of a windbreak on a cold windy winter's day. It is enough to say that the sheltered areas seem very much warmer than the wind swept ones. Such shelter around the farm buildings would seem to be a necessity.

How can this shelter be built up? The only practical method is by planting trees. Broad belts of trees planted on the sides from which the prevailing winds blow stop the icy blasts and maintain in their lee a calm in which life can be lived in comfort.

Trees differ in their value for this purpose. Evergreens are the best. They present the greatest resistance to the passage of air and thus stop it most effectively. Unfortunately they are slow growing and take some years to provide shelter.

Deciduous trees such as poplars grow quickly but offer less resistance to the wind. They will be quite satisfactory if planted in a broad enough belt. Perhaps the best windbreak can be made up of a mixture of trees such as spruce and poplars. By alternating the trees in the rows and staggering the rows, effective protection can be built up in a comparatively short time. The quick growing short lived poplars give early protection. When they reach maturity and begin to die, the slower growing evergreens are ready to take their place. No matter what the conditions are, some tree can usually be found to suit them.

No. 48 --- Sun. Nov. 17, 1940 --- Where U.S. Gets Its Christmas Trees.

The number of Christmas trees imported into the United States in 1939 was 4,643,961, valued at \$536,692. All the shipments were credited to Canada. In 1938 the number was 4,220,405, valued at \$438,092, Newfoundland supplying 276,077 trees of the total shipments. Many of the Canadian trees are grown by farmers. The results obtained in the various Eastern United States market was not uniform. Some markets, such as New York and Philadelphia were definitely over-supplied. Chicago and other cities, however, reported that on the whole business had been satisfactory to the dealers.

Some of the larger operators send buyers to Canada in the late summer to purchase the trees standing. These buyers or their representatives return later in the fall to hire workmen for cutting and bundling the trees. The butts are required to be cut straight across and the bundles contain upwards of seven trees depending on the size. The most popular height is about five to six feet. Another practice is to arrange for the purchase of trees delivered at the railway siding. Some shippers also make contracts in advance for sale on an outright basis to responsible dealers in the United States.

Balsam fir is the most popular species in the East for the Christmas trade, with an apparent preference for trees from Nova Scotia, although New Brunswick and Quebec balsam also have a substantial sale. This species is preferred because of its quality and pyramidal shape. From the standpoint of the dealer, it can be more readily bundled for shipment. Spruce can also find an outlet, but it is generally quoted at

a discount, at least in so far as the New York market is concerned. There has been a certain movement in Scotch pine especially in the border cities adjoining Ontario, and for several years past Douglas fir trees from British Columbia have been growing in favour and are now moving eastward to central and eastern United States markets.

No. 49 — Mon. Nov. 18, 1940 — Rabbit Fencing.

Every ten or eleven years the snowshoe rabbit reaches a cyclical peak in numbers when the winter landscape fairly flutters with its white fur. For several years during and approaching that period, the rabbits devastate unprotected plantations of fruits and shrubbery, gnaw clover and alfalfa plants to the ground, eat off winter wheat and rye and attack feed stacks. As soiled snow piles around the stacks, the rabbits work up, into and over them, wasting much fodder that they do not consume.

As a rule, the rabbits keep mainly to the wild until autumn, although this past summer, even at this comparatively early stage in their periodic plague complaints have already come of the rabbits destroying bush homesteaders' vegetable crops. Dogs, cats, poisoning, shooting, and trapping are helpful, but when the rabbits become really numerous fencing is the reliable protection.

Early last autumn the Substation tried cages of snow-flat fencing but a half-grown rabbit went through it in a trice. In previous years light-weight, two-inch mesh poultry netting had proven none too effective, as the rabbits forced their heads and then their bodies through the meshes, especially when stretched by repeated taking down and re-erection.

In 1939 some hundred and forty rods of fence were erected with heavy-gauge, two inch mesh, five-foot high poultry netting lath-cleated to 8 foot posts 12 feet apart with a board at the bottom to prevent the rabbits from working underneath and two strands of lightly stretched barbed wire to keep the netting from sagging. With the netting at \$15.59 per 150 foot roll, barb wire at \$5.25 per roll, posts at 9 cents each, rough lumber at \$14.00 M and labour at 27 cents an hour this fence cost \$13.07 per hundred feet for material and \$1.62 for labour or a total of \$14.69 per hundred feet.

Some other fence was erected with solid board panels made of rough lumber cleated together with 1" x 4" x 6" battens (projecting a foot to permit the nailing on of another board if necessary) and wired to posts 12 feet apart. These panels cost \$8.73 per hundred feet for material, including the posts, and \$1.35 for labour, or a total of \$10.08 per hundred feet. Poultry netting is now quoted 50 per cent higher than a year ago and lumber is locally about 20 per cent higher, so costs would be accordingly greater.

During the comparatively calm winter of 1939-40 snow did not drift badly in the lee of the solid board fence. It would pile up much worse behind a slatted fence. Photographs in late winter showed the comb of what drift there was to be spaced two or three feet from the fence. It was much closer to the netting fence, through which the snow drifted in a long low sweep. However, there was a suspicion that the occasional rabbit leaped over the board fence during late winter. In a winter of strong winds, drifts would, of course, be much higher and it might become necessary to raise either type of fence, but especially the board one, here and there. Nevertheless panels are worth considering as non-permanent fences for they are easy to erect, to take down and to stack and do not deteriorate much in storage, while rolls of netting flatten down and get out of shape.

No. 50 -- Tues. Nov. 19, 1940 -- Will Send Complete Planes.

Canada will be able to ship complete planes to Great Britain within a few months.

Hitherto Canadian companies have only built aircraft frames and the engines are installed in British plants.

Now airplane engines will be built in the Dominion so that Canadian defence forces will not be so dependent on supplies from Britain and the United States.

Negotiations are now under way with an English firm to obtain patents and plans for a British engine and skilled craftsmen will be sent to Canada to supervise the construction of a plant and the engines. The bulk of the factory workers will be Canadian.

While normally it would require two years before the first units could be produced on a mass production basis, it is estimated that Canada will be in production within a few months.

In addition Canada is striving to develop the manufacture of all aircraft components. Orders have already been placed in the Dominion for propellers and instruments not previously made in the country while negotiations have been completed for the production of many other items, formerly unobtainable in the Dominion, such as airplane tyres, electrical equipment, pyrotechnics and bomb sights.

A £650,000 plant extension programme is also underway to provide for the growing production of aircraft used in the Empire Air Training Scheme and plans are being prepared for two new plants at a cost of £900,000 for the construction and overhaul of airplanes.

Employment in the aircraft industry has climbed in proportion to increased production. About 11,000 persons now are employed in production of aircraft, engine assembly plants, overhaul depots and the Anson programme, an increase of roughly 40 per cent during the last three months.

Altogether a total of 645 airplanes of various types have been made available for Canadian use in the past three months. This figure excludes the production of one Canadian aircraft company and is made up by 272 planes built in Canada, 176 planes assembled, 138 planes assembled by the R.C.A.F. and 59 planes delivered from United States.

No. 51 -- Wed. Nov. 30, 1940 -- Britain is Unimpaired.

The following statement has been issued by the Canadian High Commissioner's Office in London to British and Continental European newspapers:

Britain is still industrially unimpaired. This is the considered statement of an expert observer, the Canadian Minister of Trade and Commerce, the Hon. James A. MacKinnon.

"Despite the heavy attacks on her", he says in a statement just received in London, "the United Kingdom is still the great trading country it was and our receipts from Great Britain are far ahead of what they were a year ago. This shows that British production has not been impaired and that her overseas commerce is increasing and enabling her to re-export to other countries the natural resources of her vast Empire".

So far as Canada is concerned he observes that despite German destruction of such important trading nations as Norway, Denmark, France and Belgium, she, too, has suffered no net loss of total trade, but on the contrary she has gained.

"Since these countries were overrun" says Mr. MacKinnon, Canadian trade has steadily increased, and although we have lost these markets temporarily we have increased our sales abroad in other markets. So successful has this been that the favourable balance of our trade has continued, during the first seven months of the present year, when all these markets were open to our exporters, the average balance of selling over purchasing was somewhat less than \$10,000,000 a month. Since the destruction of that trade in Continental Europe, the favourable balance has grown to about \$12,000,000.

"For some months our exports have been considerably in excess of \$100,000,000 a month, which is much larger than for many years, and our position in that respect is thoroughly satisfactory. July imports from the United States were valued at more than \$57,000,000, a gain of nearly \$22,000,000 over July last year, and total imports from all countries increased by some \$31,000,000."

Commodities required by Canada and received for many years from conquered areas of Europe now are arriving even more abundantly from other sources, and Mr. MacKinnon said it was "inspiring" to see how the component parts of the British Commonwealth had rallied to supply the needs of the various Empire countries. "It is a demonstration of the power of the British Empire", said Mr. MacKinnon.

"The loss of supplies also from the countries which Hitler has despoiled has been more than counter-balanced by imports from such American countries as Brazil, Argentine, Mexico, Uruguay, and Venezuela, but notably Colombia and the Dominican Republic", said Mr. MacKinnon.

"The other significant point is that the overseas possessions of European countries which Hitler has pillaged have increased their exports to this country. Our imports from French West Indies, French Oceania, the French East Indies and St. Pierre have mounted. Even more remarkable has been the large volume from the Netherlands East Indies, and the Netherlands West Indies, from which we got nothing a year ago".

No. 52 Thurs. Nov. 21, 1940 Care of Machinery During Winter.

The cold days of winter are almost upon us and the care that farm machinery receives during the winter months is an important factor especially in these days of war.

Before winter sets in each piece of machinery should be given a thorough inspection. All parts should be well cleaned and all bearings and other moving parts given a generous greasing or oiling. Polished surfaces such as plow moldboards and cultivator shovels need a good coat of heavy grease to prevent rusting. Roller chains should be thoroughly cleaned in gasoline or kerosene and re-oiled. Binder, combine, and mower sickles should be removed and stored inside. All dirt, straw, and trash should be removed from drill boxes, and from the straw racks, chaffers, augers, and elevators on separators and combines. Dirt holds moisture and promotes rusting and decay.

While this cleaning and greasing is being carried on is a good time to make a careful check of all worn and broken parts that will need replacement immediately or in the near future. In any case, repair parts should be ordered so that they will be on hand when required. It is important to keep all machines in first class running

order. Time lost through breakdowns is expensive, and what is perhaps even more important, a worn machine cannot do a first class job. One worn part often causes other parts to wear more rapidly, and breakage of one part may lead to breakage or damage of other parts.

Paint is a great preventative against those enemies, rust and decay, and also adds to appearance. The life of wooden parts in particular is lengthened by regular paintings. For best results the machine must be thoroughly cleaned of all loose paint, rust, dirt, and grease and a good quality implement paint applied under dry, warm conditions.

Shelter is good for those machines which have many wooden or moving parts, such as binders, combines, drills, and wagons. Tractors should be stored inside if possible. Most tillage implements suffer little harm from the weather if properly cared for. Where machines are kept outside it is a good plan to remove wooden parts such as binder reel slats and arms, tongues, and wooden wheels and store them under cover.

Implements with rubber tires should have the weight blocked off the tires if stored inside, or if kept outside the wheels should be removed and stored inside. It is a good idea to give all rubber tires a coat of rubber preservative.

Proper care given to machinery when not in use will be repaid many times in increased life and efficiency.

No. 53 -- Fri. Nov. 22, 1940 -- Life in the Army.

Here is a new slant on life in the army.

According to Dr. J. P. S. Cathcart, a noted neuropsychiatrist, Canada's fighting men of 1940 drink less than the soldiers of 1914-1918 but they eat more. It seems that they have contracted a disease known as "the snack habit", and the amount of chocolate bars, doughnuts and peanuts they make away with is positively amazing. In addition to possessing enormous appetites for sweets the fellows have a remarkable capacity for "guzzling" soft drinks between meals. The doctor says that often when a man is sick the cause of the trouble can be traced back to the canteen, and from what he's been eating "you'd think he was a small boy with a dollar at the circus."

"Snacking", while it seems to be a very infectious disease does not appear to destroy the men's appetites at meal times. When the dinner gong goes they're right there, ready to make short work of the food set before them. Canada's soldiers are said to be better fed than any others in the world, so it is not due to a deficiency in either quantity or quality of food served in camp that the men have taken to "snacking".

"I think they simply eat for something to do," says Doctor Cathcart.

Yes, boys still will be boys!

No. 54 -- Sat. Nov. 23, 1940 -- Motor Torpedo Boats -- 1.

In Canada we have no very accurate knowledge of life aboard a British motor torpedo-boat in war time. Here is a description of an experience which a writer has

had. It gives a glimpse of the exacting nature of the work which men on board are called upon to do.

Within a few weeks of being on board one of our largest battleships I found myself at sea in a motor torpedo-boat, which is the smallest of our men-of-war.

She was 70 feet long, carried two torpedo tubes, some depth charges and an anti-aircraft armament. The complement consisted of two officers and eight ratings. The battleship carried sixteen hundred; and it was interesting to reflect that by a combination of circumstances, it might be possible for one of these seventy-foot hornets to disable and even sink a 35,000 ton battleship.

In outline, these boats resemble a flat-iron, and economy in space, which is of course a feature of all ships, is carried to a fine art in a motor torpedo-boat. The living spaces, for both officers and men, are in the fore part of the boat; the crew occupy one compartment out of which opens the tiny galley, while the captain and his navigator, usually a lieutenant and a sub-lieutenant, R.N.V.R., occupy another.

There is folding bunk accommodation for all, and they can when necessary live on board for considerable periods, although when at their bases crews of boats not at short notice live in parent ships or ashore.

As in the case of submarines, motor-torpedo-boats are manned by picked men. These ratings receive special equipment and certain tinned rations which, as in the case of submarines, are officially called "comforts."

There are times when they must need a good deal of comforting.

When the boat is running on her main engines the roar of the exhaust makes conversation impossible.

In any seaway the water drives over her in a continuous sheet as she bounces from one wave-top to the next. Life on board under these conditions is one long shower-bath.

The captain and coxwain stand on a thick soft rubber pad which absorbs some of the shock as the boat strikes each successive sea. The rest of the crew, wherever they happen to be, just keep their knees bent and hold on to whatever is handy: there must be moments when they wonder whether the next jolt won't knock their back-bones through the tops of their heads.

Rest Before Action

I found myself on board one of these craft late one afternoon, one of several moored alongside a jetty, and the crews were sitting about the decks basking in the sun. Some lay outstretched with their gas-masks for pillows, asleep.

But even in this hour of relaxation one or two of the gunners were fiddling with the mechanism of their guns with a brush and a tin of oil. One man was putting a touch of paint on one of the torpedo tubes where a wire had chafed it. While he worked he sang softly to himself.

Somebody else put his head and shoulders out of the forward hatch and began handing round cups of tea. As the sun was setting the lieutenants in command came down the pier and climbed on board. They had been to a council of war ashore.

"Ten o'clock," said our captain briefly. "Get your suppers early and turn in for a few hours. It'll be an all-night show."

Some hours later the stillness of the harbour was broken by the roar of the high-power engines as they began warming through. There were a few brief orders: one by one the boats glided seaward, the noise increased as they gathered speed, and presently there was nothing round us but the roaring darkness and the furrow of our wake pale in the starlight.

No. 55 -- Sun. Nov. 24, 1940 -- Motor Torpedo-Boats -- 2.

After some hours the sound of the engines dropped abruptly to a soft purring note. The night was very calm. A while later the navigator emerged from the conning-tower door. He glanced at the dimly-lit binnacle, murmured something and pointed through the darkness. The boat reduced speed till she barely carried steerage way. The reflections of the stars swayed and danced in the broad wave that curved back from our bows.

I could see it then, a dark object, fine on the port bow. "That's it," said the captain. The outline of a buoy loomed up and slid past us. "That's two miles from the enemy coast," said the navigator. In the comparative stillness the sound of aircraft passing overhead was plainly audible.

A moment later the darkness ahead suddenly became a lattice of searchlight beams. They wheeled and concentrated, spread fanwise, and joined their points in clusters that swayed uneasily and revealed specks of tinsel that eluded them. While flashes of gunfire spouted into fountains of tracer shell. The dull mutter of the German guns reached us across the water and then the "Woomp!" of exploding bombs.

"Good old R.A.F.!" said the coswain at the wheel. "knocking seven bells out of the Bosch!"

"Woomp!" said the British bombs. For two hours they continued to say the same thing with splendid monotony. "Woomp!...Woomp!...Woomp!..." The searchlights swayed like the fiery girders of some Titanic structure about to crash into ruin. Flaming onions hung like dying suns amid the lesser constellations of star shell and sank slowly to extinction. Then the R.A.F. went home and darkness fell upon the coast except where fires glowed dully.

Dawn found us back in harbour. A dockhand caught the heaving line flung by our gunner.

No. 56 -- Mon. Nov. 25, 1940 -- An Empire at War.

Britain's great colonial empire is mobilizing its strength in the battle for freedom. Everywhere is keen desire to enlist in the Army, Navy or Air Force. Round the Seven Seas, British colonies are providing supplies indispensable to war effort. By the end of August last, total cash contributions from the peoples of the Colonial Empire to the general war effort were approximately 75 cents per head from the sixty million colonial peoples.

In a fleet of lorries, a contingent from the Northern Rhodesia regiment made a mechanised "safari" of 2,000 miles from Lusaka to Nairobi in East Africa.

Two-fifths of the total male European population of Kenya had enlisted in the East African forces as long ago as last May.

Uganda has formed a local defence force, with central officers' training school and army motor driving school.

The Tanganyika Naval Volunteer Force and the Tanganyika Air Defence are co-operating in coastal defence.

Nigeria has compulsory military training for Europeans up to the age of 40.

In Hong Kong all British residents of military age are enrolled in the Colony's defence forces.

In both the Straits Settlements and Federated Malay States, British Europeans have either volunteered or been called up under special legislation.

In Mauritius, the territorial force has been re-organized. Skilled tradesmen have been recruited for service in the Middle East.

Cyprus had the distinction of providing the first unit of colonial troops to arrive in France.

Both Jews and Arabs in Palestine have enlisted in great numbers.

Volunteer forces in Bermuda were called up and expanded at the beginning of the war.

In Trinidad, five times the number of men needed have applied for enlistment in the R.N.V.R.

No. 57 -- Tues. Nov. 26, 1940 -- Payments to Prisoners

In "Letters to the Editor" and in Editorials recently there has appeared some criticism of the payment of money to German Officer Prisoners of War in internment camps in this country. This payment is made in accordance with international agreement, and the regulations governing the point are explained in the following statement on the subject by Lieut. Colonel H. Stethem, Assistant Director of Internment Operations.

By International Convention, German Officers held as Prisoners of War in Canada are entitled to receive certain pay which is recoverable from the German government. Similarly British and Canadian officers, held in Germany, are entitled to pay, recoverable from the government in whose service they belong.

The governing International Convention is that relating to the treatment of Prisoners of War ratified by the Dominion of Canada on February 20, 1933 and agreed to by some thirty-nine of the various powers and states. Article 23 provides that officers who are Prisoners of War shall receive certain pay. From this pay, states

Lieut. Colonel H. Stethem, Assistant Director of Internment Operations, the officers pay for their clothing and food. There is actually no cash transaction, the money being placed to the credit of their accounts, against which they receive Camp token money or make Camp purchases which are subsequently paid for through their accounts. They receive pay according to their rank based on the German rates of pay in Reichsmarks, converted into sterling at a rate agreed on by the Governments of the United Kingdom and Germany, in accordance with Article 23 of the Convention. The rate of conversion from sterling to Canadian currency is that set by the Foreign Exchange Control Board.

Observance of international law in regard to Prisoners of War is insured by bi-monthly inspections made of all Internment Camps in Canada and in Germany by the protecting powers. Canadian interests are represented in Germany by the United States Embassy in Berlin and by the International Red Cross. German interests in Canada are represented by the Consul General of Switzerland and his representatives.

"It must be remembered", Lieut. Colonel Stethem adds, "that British Officers in Germany are also receiving their pay from the German authorities, and the same is recoverable from the British Government. Furthermore, it must be remembered that, for every German Officer in Canada, there are, probably, four British Officers held in Germany, and the various people who suggest ill-treatment of these Officers do not realize that such ill-treatment would provide an excuse for ill-treating many times the number of British officers and other ranks in Germany.

"The International Convention Relative to the Treatment of Prisoners of War is one of the few international laws relating to warfare which is, at least to some extent, being adhered to in the present conflict, possibly, because its Articles provide for the employment of a protecting power to ensure its enforcement, and, possibly, because the matters with which it deals provide a practical means of retaliation in the event of non-observance."

No. 58 -- Wed. Nov. 27, 1940 -- Scientists at War.

Born and conceived during the last great war to compete against a scientifically highly developed enemy power, the National Research Council of Canada was ready and equipped to renew the struggle against the same enemy at the start of the present conflict.

Virtually overnight scientists of the Research Council, with a minimum of apparent effort that suggested careful planning and preparedness, abandoned their peacetime pursuits to bend all efforts towards greater efficiency in the war effort. In many cases, however, peacetime activities, were found to be closely related to problems arising out of war.

Now well over 80 per cent of the Council's work is directly connected with the war. Hundreds of projects, tests, examinations and studies have been undertaken. Valuable assistance is rendered to the Department of Munitions and Supply in regards the equivalency of British and Canadian specifications.

So that no valuable war invention would be pigeon-holed, a special inventions' board was set up to examine innumerable ideas and inventions, which pour in upon the government at the rate of about 300 per month.

In the mechanical engineering laboratories, with equipment for the study of

aeronautical and hydrodynamical problems, every war day is crowded with new research. Wind tunnels, engine testing apparatus, model-testing basins for water crafts, are used for scores of studies on fighter aircraft, tests of fuel, plane engines, flying instruments, minesweepers, corvettes and other craft of the Canadian Navy.

A modern building to house aerodynamics laboratories is being rushed to completion. Planned by the Council when Major General A. G. L. MacNaughton was its president and inspiration, this new laboratory, of great importance in a war of aerial combat, has been espoused by Dean C. J. Mackenzie, Acting President of the Research Council, as a favourite enterprise.

The physics division has rendered particularly useful service through its metrology section, where a gauge testing laboratory has been set up. A supply of gauges, accurately tested and verified, has been built up and made available for industrial plants engaged in the production of munitions and war equipment.

The attention of experts, in the chemistry section, is focused on numerous problems on war supplies, the subjects ranging from gas masks and airplane de-icers to textiles and alloys.

No. 59 ... Thurs. Nov. 28, 1940 - Radio Aids Arctic Doctors.

Radio plays an important part in bringing health services to remote sections of the Eastern Arctic, according to Dr. T. J. Orford, who has just returned from the North after serving as medical officer of the Department of Mines and Resources at Pangnirtung for the past four years. From practically every post within radio call messages are relayed to Pangnirtung with requests for medical advice for both white and Eskimo residents.

Pangnirtung, the medical centre for Baffin Island, Hudson Strait, and a part of northern Quebec, has a well-equipped hospital, operated by the Anglican mission with government assistance. The increasing use of the hospital by the Eskimos necessitated enlargement of the original building, erected ten years ago, and a ten-bed extension was added during the past year. The Pangnirtung hospital now has a normal accommodation of sixteen beds and an infant ward, an operating room equipped for any major operation, X-Ray, iron lung, laboratory, and dark room facilities. The building is entirely insulated, has a Diesel electrical unit, and includes living quarters for the staff of two nurses and a house matron.

A similar institution is operated by the Roman Catholic mission at Chesterfield, which serves the vast area extending northward from Churchill to Pelly Bay and eastward to Igloolik, as well as part of the Eskimo territory of northern Quebec.

Although the Department keeps a close check on the health of the Eskimos, the natives live their natural nomadic life in the open, depending largely on the game resources. They come into the settlements only for trading purposes, festivals, medical treatment and the arrival of the annual supply ship. Gradually the Eskimos have come to realize that treatment of the seriously sick is difficult in their own tents and igloos, and now readily avail themselves of the hospital facilities.

No. 60 — Fri. Nov. 29, 1940 — Birds on Prairie Fruit Plantation.

Generally speaking, birds have not been given the consideration due them in most prairie fruit plantations. With very little expense in material and time, not only may many beneficial birds be attracted but some injurious birds may become strictly beneficial.

The three main considerations in attracting birds are to supply suitable nesting quarters, eliminating as far as possible their natural enemies and supplying supplementary food during periods when it is scarce or difficult to obtain. An evergreen grove or windbreak, especially spruce, will be used by numerous birds for nesting quarters and will give protection from many of their natural enemies and severe weather conditions. Wrens, tree swallows, martins, and woodpeckers are highly beneficial birds which nest in cavities and are attracted by certain types of bird houses. Brewers blackbird, perhaps the most valuable bird in the garden, due to its ability to locate and destroy cutworms, prefers brush-piles in the absence of which it will nest on the ground.

The most destructive natural enemies of beneficial birds are the common cat, red squirrel, ground squirrels, gophers, crows, magpies, shrikes, common blackbird (Bronze Grackle), cowbirds, and a few species of hawks and owls. Weasels and skunks may destroy some birds, or birds' nests, but are generally considered beneficial because they feed largely on mice, rats, gophers, rabbits and insects. Most bird enemies may be shot or trapped. Injurious hawks and owls usually do not migrate South and may be easily caught in pole traps during the late fall and winter months.

Two pole traps set during the past three winters in the fruit plantation at the Dominion Experimental Station, Morden, Manitoba, have caught over sixty injurious hawks and owls. Great horned owls are taken in by far the greatest numbers. Snowy owls, Goshawks, Coopers hawks, and Longeared owls are also caught. Examination of the stomachs of many of those trapped show that they are largely injurious species. A pole 10 to 20 feet high, with spikes on side to facilitate climbing and resetting trap and with a No. 1 jump trap set on top, is very effective near a feeding station. A 4 to 6 foot post set in the top of a straw stack with the same type of trap set on top will also catch many owls and hawks. Traps should not be set while migratory or song birds are present.

The ruffed grouse and a few other desirable birds will resort to feeding on fruit buds when food is scarce as during periods of deep snow. In fact, they may completely strip a tree of all its fruit buds, thus giving the impression that the variety is unfruitful. Shallow boxes kept filled with grain and placed in partly protected locations will not only protect the fruit buds from such birds but will also attract many others. Chunks of suet tied up in trees is appreciated by woodpeckers, chickadees, and other birds to supplement their diet of borers and cankerworm eggs. Hawthorns, Russian olives, and crabs of the baccata type are good winter foods. During the fruit season hardy mulberries and saskatoons supply food for many birds which would otherwise feed on cherries and small fruits.

The small expense of winter feeding, supplying nesting quarters and protection, will be well repaid during the following season through the destruction of grasshoppers and the many other troublesome insects by these birds.

No. 61 Sat. Nov. 30, 1940 Production of Lime.

Limestone is the most useful of all rocks, and occurrences of limestone suitable for its many applications are abundant in the Dominion. A new market for white, high-calcium lime has been created by the use of calcium carbonate filler in place of imported clay in newsprint and magazine paper, and largely for this reason considerable interest has been shown recently in deposits of high-calcium limestone in northern Ontario because of their proximity to mines and to pulp mills.

With about 85 per cent of the current production of lime being used in the chemical industries, the old conception of lime as being primarily a structural material is no longer true. New chemical uses for lime are continually appearing, a recent instance being its use in the manufacture of a new plastic from pulp-mill waste liquor that promises to be one of the cheapest of all plastics. Lime also finds many uses in metallurgical processes and in construction, agriculture, and other industries.

Lime is manufactured in every province of Canada, with the exception of Prince Edward Island, though the Saskatchewan production is intermittent and very small. Both high-calcium and dolomitic limes are produced in Nova Scotia, New Brunswick, Ontario and Manitoba, but only high-calcium lime is made in Quebec, Alberta, and British Columbia. Ontario accounts for more than half the total output, while Quebec holds second place, contributing slightly more than one-quarter of the production.

Canada's lime industry made progress in 1939, when the output amounted to 473,617 tons of quicklime valued at \$3,335,697 and 76,725 tons of hydrated lime valued at \$670,271. This compares with the 1938 production of 415,761 tons of quicklime valued at \$2,953,091 and 71,161 tons of hydrated lime valued at \$589,561.

11-D-02

DEPARTMENT OF
TRADE AND COMMERCE



A FACT A DAY ABOUT CANADA

FROM THE

DOMINION BUREAU OF STATISTICS

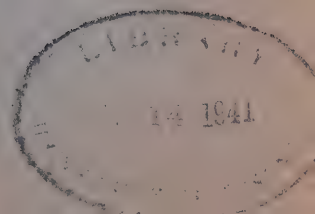
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James Muir,

Editor.

from the

Dominion Bureau of Statistics

No. 62 -- Sun. Dec. 1, 1940 -- Sending Food to Britain

Dr. Wm. Allen, Canadian Agricultural Commissioner to the United Kingdom, in a recent address on the feeding of the people of Britain in war time gave a graphic description of transportation of produce under war-time conditions. Many physical difficulties arose which would never be experienced in peace time. The dislocation of normal shipping had diverted commodities to ports where the usual facilities for handling and storage were not available. Consequently, considerable transportation overland was inevitable, for which adequate equipment was lacking.

War had also disorganized the normal distribution within Britain: it had closed important markets and necessitated the establishment of regional depots to fit in with the various rationing programs. The personnel of the long-established peace time agencies of distribution had been drawn on heavily for war services of every kind, and in addition the voluntary work at night and in emergencies added heavy loads to those remaining with the agencies. Evacuation of important groups of people from danger areas had also brought serious complications, and the black-out and the air raids had introduced severe difficulties to the problem of distribution. Notwithstanding these obstacles and hardships, food was reaching the consumers with remarkable regularity, in fair variety, and not unduly enhanced in price.

Canada's contributions to the present struggle were highly significant for all parts of the war program, and the efforts of the Dominion were very greatly appreciated by Britain. Notwithstanding the terrific experiences which were now the daily routine, Britain was steadfastly preparing for whatever might be necessary to win this tremendous and all-important fight for freedom with the support of the other parts of the Empire and allies and friends.

No. 63 -- Mon. Dec. 2, 1940 -- Farm Shelterbelt

The development of the Prairie Farm Shelterbelt requires considerable thought and careful planning before the actual tree planting work is undertaken if the most efficient results are to be obtained. No two farms are alike as regards local topography and layout of buildings, and therefore no standard plan can be suggested for general use. Each individual farm presents a separate problem. To fully develop a suitable arrangement of shelterbelts may take several years, but it is essential that some definite plan be followed from the start to meet the special requirements. The winter months afford plenty of time, when other work is not pressing, for the careful planning of future farm developments.

It is not advisable to plant tree belts too close to the buildings as this may result later in cramped and inconvenient working conditions and hindrance to further extension of buildings. To avoid inconvenience from snowdrifts, which always accumulate in the lee of any shelterbelt, the trees should be kept at least 30 yards back from any permanent building.

There should be a sufficiently large area, within the main shelterbelt, say from five to ten acres, to provide for ample space for vegetable garden, fruit plots, and all future developments of yards, lawns, and ornamental planting.

The belts should be arranged as far as possible so as to utilize the spring run off from melting snow to the best advantage. By means of properly planned belts and well constructed dams and dugouts, the water supply from snow conservation can be greatly increased and used to irrigate gardens and orchards during periods of drought.

Farmers are often tempted to plant more trees in one season than they can properly look after with the available labor. It is much better to plant a few trees at any one time and look after them properly than to set out too large a number with the probability that they may be more or less neglected.

Trees require protection against stock by fencing and must be given frequent cultivation, particularly along the outer and inner edges of the belts. Care, therefore, should be taken to provide a space of at least 12 to 16 feet between the trees and any permanent fences.

No. 64 -- Tues. Dec. 3, 1940 -- Huge Basking Shark

Positive identification by Canadian fishery scientists of two large fish taken off the shores of Nova Scotia as Basking Sharks, has given definite proof of the presence of this species in Canadian waters. The Basking Shark (*Cetorhinus maximus*) is one of the largest of the shark family.

A large specimen was taken in the fish trap at Sandford, on the Yarmouth County coast, during commercial fishing for mackerel. This fish, a male, was twenty-five and one-quarter feet in length and was estimated to weight 7,200 pounds. A second fish of the same species measuring 12 feet in length, and weighing some 780 pounds after having been bled, was taken off Digby, N.S. Estimated weight of this latter fish before bleeding caused a shrinkage in weight was 900 pounds.

Until 1939 there were no positive records of the capture of this species in Nova Scotian waters and the capture of the two fish thus is a matter of unusual interest.

While sharks are utilized in some instances in the leather industry--their tough skin produces a distinct grade of leather--none of the group except dogfish are taken commercially in Canadian waters. Destructive by nature, the fish are regarded by the fishermen as a nuisance. On occasion they cause heavy damage when they foul the fishermen's nets, destroying the gear in their frantic efforts to escape.

No. 65 -- Wed. Dec. 4, 1940 -- Paper in New Lighting

Every now and again we hear of new uses for paper and the public has ceased to be amazed at the varieties of commodities that are now made out of paper produced by the Canadian forests.

One of these little known uses has come recently to have added importance

because of the increasing popularity of the new fluorescent lighting. In this new method of illumination the invisible light-rays of a mercury vapour lamp are transformed into visible light and thus give a highly pleasing light with a tremendous reduction in the amount of power used. Each unit of such lighting requires in the lighting fixture an appliance known as a condenser, the most important part of which is a special variety of paper.

This paper is exceedingly thin, about one-tenth of the diameter of a human hair; it would take about three thousand sheets to make a pile an inch thick. In spite of such amazing thinness, the paper must be extremely uniform and practically air-tight. Although it is made from the same wood-pulp as is used for ordinary brown wrapping paper, the care needed in its manufacture brings the cost up to about three times that of rayon yarn.

It is estimated that more than a million dollars worth of this fine paper will be used this year in the United States and Canada.

No. 66 — Thurs. Dec. 5, 1940 — More Flax Required

With a large surplus of wheat in storage in the Dominion, Canadian farmers realize that other crops must replace a part of their wheat acreage. Flax is one of these other crops. Recognizing that an expansion of the flaxseed acreage in Western Canada was desirable, the Dominion Department of Agriculture made appropriate arrangements shortly after the outbreak of war. The National Barley Committee was enlarged under the new National Barley and Linseed Committee to carry on a programme to revive interest in flaxseed and to assist the farmers with their flax growing problems. The keynote of the campaign was that Canada needed another million bushels of flaxseed to supply her home consumption.

For the past number of years, Canada has been forced to import annually nearly a million bushels of flaxseed, mainly from the Argentine. Canadian flax is as good as any from the Argentine, and further it is of importance that Western Canada should be in a position to supply all of Canada's domestic flax needs, in order to conserve foreign exchange for the purchases Canada has to make abroad.

In answer to the Government's call, the farmers of Western Canada responded by increasing their acreage seeded to flax in 1940 to 372,700, as compared with 297,500 acres in 1939. The consequent increased yield of 1.7 bushels per acre brought production up to 3,240,000 bushels in 1940 as against 2,075,000 bushels in 1939. There are definite limits to the amount of flax that can be produced in Canada without creating a surplus, but it is conservatively estimated that a crop of 4,500,000 bushels of flax would find a ready market.

No. 67 — Fri. Dec. 6, 1940 — Eskimo Rancher

Charlie Rufus, Canada's first Eskimo reindeer rancher, has made good. It is estimated that the reindeer entrusted to his management, under government supervision, will number about 2,000 head after the next fawning, at which time he will be ready to return to the government a herd equal to the original 950 deer lent him in December, 1938. These animals were lent with the understanding that their

equivalent would be returned when the native-managed herd increased substantially in size. In addition, the government provided herd dogs and other equipment, as well as a quantity of rations to assist in maintaining the herders for the first year.

Before taking charge of the deer, Charlie Rufus served three years as an apprentice herder at the government reindeer station, where a herd of about 4,300 animals is at present maintained. Under the supervision of a government chief herder, he has proved himself capable of handling the deer successfully, not permitting any waste of reindeer products, and showing good business acumen in disposing of surplus meat and hides. He now has a well-balanced herd of approximately 1,500 deer, located in the Anderson River area, 150 miles east of the government reindeer station.

A second native herd, numbering about 700 animals, was established recently in the Horton River area, east of the first native herd. These deer were driven overland from the government reindeer station, and lent to Peter Cogillak, an Eskimo who also received training as an apprentice herder.

Although still in its infancy, Canada's reindeer industry is making good progress. At present the main concern is the training of young natives in reindeer husbandry, and as time goes on additional herds will be placed under Eskimo management at suitable places. Thus a self-sustaining industry for the benefit of the native population is being developed in the Canadian Arctic.

No. 68 -- Sat. Dec. 7, 1940 -- Alert to Wartime Prices

Since the outbreak of war, people in Canada have become "price" and "cost of living" conscious.

"That" comments H. B. McKinnon, chairman of the Wartime Prices and Trade Board, in a year end review of the Board's work, "is undoubtedly a good thing because an alert and sensitive public opinion is in itself an important protection against undue increases -- a first line of defence against the insidious beginnings of price inflation." "As a matter of fact," Mr. McKinnon adds, "the cost of living in Canada has risen quite moderately -- approximately 7.3 per cent in the last eighteen months."

Mr. McKinnon proceeds: "That the Canadian cost of living has risen so moderately in spite of the sharp depreciation in the value of the Canadian dollar, disorganized shipping, tremendous increases in ocean freight rates and war risk insurance costs and substantial increases in taxation on many commodities is due very largely to the fact that by careful planning and co-operation it has been possible to maintain an adequate and uninterrupted flow of supplies on to the Canadian market. Underlying all the work of the Wartime Prices and Trade Board is the belief that if ample supplies are kept available, monopolistic tendencies controlled and sporadic instances of local profiteering dealt with, fair and reasonable price levels will be maintained.

"To forestall shortages whenever and wherever possible has been our major task in 1940. To do so in the face of greatly restricted international trade and rising domestic demand as a result of increasing national income, has

necessitated long and careful planning. This planning involved problems ranging from the estimate of our total requirements of such commodities as sugar and wool to the highly technical problems of timing cargoes and negotiating charters, all of which must be made to fit in with crop seasons abroad and navigation seasons at home, and the whole dovetailed into the complex programs of the British Ministries of Food, Supply, and Shipping."

The review shows how domestic industry has been fostered in an endeavour to secure adequate supply. Mr. McKinnon cites fish oils and wool. Prior to the war 75 p.c. of cod liver oil used in Canada was imported. Rapid expansion of processing facilities in the Maritime provinces and eastern Quebec was an immediate need. New developments were undertaken. Cooperation was encouraged. As compared with a 56,000 gallon production in 1939, the output of cod liver oil suitable for medicinal oil or as feeding oil for livestock and poultry will this year total over 200,000 gallons. In the woollen industry, the cooperation of the Wool Administrator was instrumental in the establishment at Acton, Ontario of the Wool Combing Corporation of Canada, Limited, a privately financed company, whose production of "tops" will further safeguard Canada's supply of both military and civilian wools.

The review further outlines what was done in government purchasing, what was done to secure adequate distribution, how rarely it was necessary to resort to price fixing, how complaints of profiteering or hoarding were investigated, how cooperation with the Food, Supply and Shipping Controls in the United Kingdom has continued to be a prime factor in the Board's governing policy.

No. 69 — Sun. Dec. 8, 1940 — Prairie Fruit

Some people believe that the recognized fruit zones should be left to supply the Prairie market with apples. From the purely commercial standpoint that would be right enough, for in many cases apples can be purchased more cheaply than they can be raised on the frontier fringe of the North West.

But home-grown apples taste better because they are home grown — the product of one's own interest, attention and skill. The same is true of small fruits, vegetables and flowers. There is a special zest in eating the products of one's own vine and fig tree. On the frontiers of settlement horticulture adds immeasurably to the fullness of living.

Thousands of settlers see it that way. Lawns, flowers, shrubs, vines, shelter belts and brave little apple and plum trees are helping to develop character and to create homes which women and children love. Fancy anyone developing tender passion for a bare brick mansion set in the middle of a muddy field.

Of course, the better-adapted crops, like small fruits and vegetables, should be stressed, for these yield most for the effort, and besides, contribute so importantly to health and economy. But the rarer adventures have a place too. Years ago a visitor to the North West wrote upon his return home: "I think of all I saw the little oak trees interested me most. Isn't it funny how the form and colour of a leaf will carry us back to old associations?"

The fruit trees, bushes and plants sold by nursery men in the Prairie Provinces in 1939 had a wholesale value of \$20,000, which is the closest we can arrive at

to give an indication of the extent to which fruit is being developed in these provinces. No doubt many are planted which do not appear in the figures obtained from nurserymen. People who love trees and plants of all descriptions are fond of having slips and roots from their old homes. These make a tie between the old and the new. According to the nurseryman's figures, apples top the list at over \$6,000, crabapples predominating. Then follow cherries at \$5,000, raspberries \$2,500, plums \$2,000 and so on. The rest include pears, apricots, blackberries, currants, gooseberries, grapes, strawberries and a very few loganberries.

No. 70 — Mon. Dec. 9, 1940 — Beaver Coming Back

The beaver, Canada's best known animal, is making a strong comeback on preserves in the James Bay area. Estimates place the beaver populations of these sanctuaries in excess of 8,000 compared with 230 in 1933, when the first of the preserves was established.

Restoration of the beaver in the interests of the Indian population has been made possible through the co-operation of the Hudson's Bay Company, the Dominion Government, and the Quebec and Ontario Governments. The first of these sanctuaries was established in 1933 at Rupert's House, Quebec, where the Hudson's Bay Company leased an area of 7,000 square miles for a fifteen-year period. A survey of this preserve in the autumn of 1933 showed a beaver population of only 162, but with the Indians acting as game wardens rather than trappers the beaver responded rapidly to the protection afforded them. By 1936 the number of beaver in the preserve had increased to 1,044, and by the autumn of 1940 had reached 6,454. Trapping of the beaver in this preserve was started in the 1939-40 season, when 500 were taken, and it is planned to trap a similar number in 1940-41.

Adjoining the Rupert's House Beaver Preserve is an area of 13,000 square miles set aside in August, 1938, as a beaver preserve for the exclusive use of the Indians of the region. In it no trapping will be permitted until the beaver population reaches 4,000, when only Indians will be permitted to trap. This preserve is operated under the supervision of the Hudson's Bay Company with the Indians acting as game wardens and conducting censuses of the beaver. In three years of operation the beaver population of this huge sanctuary has increased from 254 to 730.

Two beaver preserves in the James Bay area are located on Charlton Island and Akimiski Island, both in the Northwest Territories. Charlton Island was established a beaver sanctuary in 1933 when 68 beaver liberated on it. Under the watchful eyes of an Indian resident guardian the beaver population of this sanctuary has increased to about 700 animals, and trapping operations were begun in the 1939-40 season. Eight beaver were introduced to Akimiski Island in 1935, and a count made in 1939 indicated a beaver population of 250. This island sanctuary has an area of 900 square miles and should eventually support about 6,000 beaver.

The important work of restoring the beaver will be further extended next spring as a result of the establishment of the Kapisko Beaver Preserve in Ontario, north of the mouth of the Albany River on James Bay. Under an agreement between the Ontario Government and the Hudson's Bay Company a large area has been set aside for five years as a beaver sanctuary. The Dominion Government is co-operating by permitting the Hudson's Bay Company to stock this new sanctuary with adult beaver from Charlton Island. The Company is to assume control of the Kapisko Preserve.

and when the beaver have increased sufficiently trapping privileges will be granted to Indians only.

No. 71 -- Tues. Dec. 10, 1940 -- Fry Eat Parents

There was less snow than usual along the water line of British Columbia streams last winter and as a consequence baby salmon hatched in those streams last spring grew more slowly than normally.

But what in the world has snow to do with salmon growth?

Just this. Sockeye like other Pacific Salmon, but unlike their Atlantic cousins die after their first spawning. Little salmon feed in part upon the carcasses of adult fish which are left in the shallows after spawning is over. Ordinarily many of the bodies are covered by snow during the winter months and so carry through the winter, frozen, making the remains available as a food supply for the small salmon with the coming of Spring.

Last winter there was little snow, and the remains of the adult salmon thus fell prey to birds and various animals. The result, with the coming of spring, was a curtailed food supply for the young sockeye.

The life of a baby salmon has its perils too. Such was the case in this instance, with schools of hungry trout lurking at the river mouths to prey on the emerging fish. Sport fishermen in some instances gave the baby salmon a better chance of survival when they took substantial catches of trout by angling, and arrival of hordes of yearling salmon commencing their migration from the lakes also distracted the attention of the preying trout from the salmon fry.

Examination of the rivers in the district gave rise to the opinion that hatch and escapement of fry were satisfactory.

Sockeye are the most valuable of the five species of Pacific salmon, and are a major factor in the great British Columbia salmon fishing industry which in 1939 had a marketed value return of nearly \$13,000,000.

No. 72 -- Wed. Dec. 11, 1940 -- Plastics from Wood

The expanding use of plastics is providing new, important markets for wood, according to the Forest Products Laboratories of the Department of Mines and Resources. Although cotton still remains the main source of cellulose for plastics, wood pulp has replaced it in many instances, and since wood pulp is cheaper than cotton cellulose, it will undoubtedly replace cotton more and more as new uses for plastics are developed.

The nitrates and acetates are the most extensively used cellulose plastics. Nitrate, prepared in considerable quantity from wood cellulose, is used in the making of fountain pens, brushes, cutlery handles, and all sorts of novelties. Except in the field of explosives, acetate is superior to nitrate for many purposes. It is used in airplane dopes and windshields, eye-pieces for gas masks,

lamp shades, handles for tools, various automobile body parts, advertising signs, and because of its less inflammable nature is replacing nitrocellulose in the manufacture of photographic film. Cellulose acetate is now reported to be produced from wood cellulose in England, and there are many patents in the United States covering its production from this material.

Other less extensively used cellulose plastics are the ethyl, methyl, benzyl, acetobutyrate and acetopropionate derivatives. Ethyl cellulose is used in films, as an adhesive, in coating materials and in moulded form for home construction. Methyl cellulose is used in industrial operations such as dispersing, emulsifying and sizing; benzyl cellulose as transparent wrapping paper with waterproof qualities; cellulose acetobutyrate for outdoor furniture and in lacquers and other protective coatings. Cellulose acetopropionate is used in photographic films, particularly for X-ray purposes.

No. 73 — Thurs. Dec. 12, 1940 — Lime

Advances in chemistry are proving new uses for lime, according to the Department of Mines and Resources, which reports that about 85 per cent of Canada's lime production is used for chemical purposes.

Lime and limestone find important applications in the metallurgy of nickel, lead, copper, chromium, zinc, tin, gold, silver, antimony, cobalt, molybdenum and other metals, where the lime is used principally as a reagent in flotation, cyanidation and amalgamation processes. In the preparation of many food products such as baking powder and baking soda, gelatine, glucose, dextrin and saccharine, lime plays an important part. It is also used in the manufacture of citric, tartaric and other organic acids. Until recent years there was only a very small market for carbon dioxide and the gas evolved during calcination of limestone was allowed to go to waste. As a result of the increasing demand for this gas for use as a refrigerant, as an explosive, in chemical processes, and in carbonated beverages, ways and means of recovering it from lime kilns have been devised and it is now being marketed in solid and liquid forms from one lime plant in Australia and from another in the United States. Equipment is also in use in several places for recovering carbon dioxide from dolomite, leaving lime as a by-product.

New uses for lime are continually appearing, a recent instance being its application in the manufacture of a new plastic from pulp-mill waste liquor that promises to be one of the cheapest of all plastics. The use of calcium carbonate filler in place of imported clay in newsprint and magazine paper has created a new market for white, high-calcium lime in Canada. At present paper companies using it purchase the quicklime and make the carbonate filler at their own plants.

Lime and limestone find an important outlet in the making of building brick and pottery, silica brick and sand-lime brick. Lime is a valuable constituent of enamel in that it increases the opacity of the enamel. In addition to its use in the chemical industry for the manufacture of fertilizers, lime is spread on acid farm land to sweeten the soil.

Ontario and Quebec are the largest lime producing provinces in the Dominion. Together they supplied over 80 per cent of the total Canadian output of 552,209 tons in 1939.

No. 74 -- Fri. Dec. 13, 1940 -- Quality Production

Joining together as a co-operative group this season for the first time, a number of fishermen in a Prince Edward Island village said they would make "Quality Production" their rule--and they have lived up to their word so well that the head of a leading Maritime fish company recently described their output as the best he had ever seen, and straightway offered to buy it all. In the main, the group have been putting up boneless cod and hake, using the catches of seven or so boats.

The success of these island men is proving once more, as other fishermen-producers have proved before them, that attention to quality in fish processing does pay dividends. At the same time, the Dominion Department of Fisheries can claim a bit of the credit for the efficiency the group have been showing in their processing operations. The credit has been won in this wise:

In those Atlantic areas where the fisheries are under its administration the department keeps in the field at the appropriate times a number of experienced and skilful men who give fishermen who want it instruction and advice as to certain methods of fish processing. Instruction is given both by word of mouth and by demonstrations. The new co-operative group in Prince Edward Island promptly sought the help of some of these departmental men so that group members might add to the knowledge and skill they already possessed and learn any new "wrinkles" that would be useful to them in turning out quality goods. Then they applied the new knowledge they had gained and did the job so well that the field officer in charge of this instructional work has reported enthusiastically to the department regarding the sustained interest of the group in keeping up quality.

The fisheries in Prince Edward Island in 1939 had a product value of over \$950,000, more than half of which is credited to the lobster fishery.

No. 75 -- Sat. Dec. 14, 1940 -- Radium Hot Springs

With the mercury hovering below the zero mark, it is difficult to picture yourself enjoying a dip in an outdoor swimming pool. However, out in Kootenay National Park, B. C., is a pool that sees swimmers the year round. There, it is a case of "Leave your clothes on a snow bank and dive right in the water."

Radium Hot Springs, famous for the curative value of its water, is situated in Sinclair Creek Valley, deep in the heart of the Rockies. The road leading to the resort itself, is a mighty specimen of engineering. The highway has been hewn out of solid brick-red rock, and follows the winding treacherous course of the Sinclair river as it tumbles down the canyon. Sheer rock walls rise almost perpendicularly on either side and the narrow gorge has been well named "The Iron Gates". A mile or so down the road are the Hot Springs.

These mineral springs, among the hottest in the Rockies, have been known to exist since the earliest exploration of the region, and the Indians placed

great faith in the curative powers of the waters. A peculiar transparent greenish-blue, the water rushes from the rock at the amazing rate of 330 gallons every minute and has a temperature of over 114 degrees Fahrenheit. The swimming pool, operated by the Dominion Government, is large and fully equipped down to the last life-preserver. These radio-active springs are held in high regard for the treatment of rheumatism and kindred ailments, and many visitors are reputed to have been greatly benefited by them. Due to the extreme temperature of the water, people are advised not to remain in the pool for longer than 40 minutes at a time. Permanent residents at Sinclair confine most of their swimming to the winter months,

In addition to the pool, there are two hotels and a large camp ground with all modern conveniences for the accommodation of the thousands of tourists who visit the springs every year. The exhilarating mountain air, the spectacular scenery and the remedial properties of the sulphur waters all combine to make Radium Hot Springs one of the most popular spots in the Rockies.

During the fiscal year ended March 31, 1940, more than 25,000 visitors made use of the bathing facilities at the springs.

No. 76 — Sun. Dec. 15, 1940 — What France Must Pay

The cost of maintaining the German troops occupying France has to be paid by France at the rate of 20 million marks a day.

This sum was fixed by Article 18 of the Franco-German Armistice terms, reported on June 24, 1940.

At the rate of exchange of Fr. 20 to Rm. 1, fixed by the Armistice Commission, this amounts to Fr. 146 milliard a year.

But the whole French pre-war national income — that is, the total of personal incomes — did not exceed Fr. 290 milliard.

This means that the Germans are demanding under this head practically 50 per cent, of France's pre-war national income. In view of the inevitable reduction of this income by the disasters of war, the real proportion is higher.

The cost to Germany of the Allied armies of occupation after the last war was less than one per cent, of her national income.

The French budget for 1939 was Fr. 66 milliard, and the first war budget was Fr. 79 milliard. The sum demanded by the Germans is thus nearly twice the total war budget, and more than twice the normal peace budget of France.

The cost to Germany of the Allied armies of occupation was less than seven per cent, of her 1913 budget, and just over three per cent, of her 1924 budget.

Le Journal says that one month's maintenance of the German army at the prescribed rate exceeded the combined budget for 1939 of the French Ministries of War, Navy, and Aviation.

The German army in France includes the troops in the invasion ports, and is not strictly an "army of occupation". Even if all troops are included, the sum

demanded is enormous.

In addition France is mulcted by artificial exchange rate imposed. The acceptance of Reichsmarks at this rate is compulsory in the occupied zone.

The Bank of France is also obliged to convert into franc notes Rm. 3 milliard of mark notes of the Reichskreditkasse. No credit has been allowed for property or territory taken by Germany.

The claims for the expenses of the Allied Armies of Occupation were Based on the actual costs incurred. Down to 30 April, 1921, German reparation payments had approximately covered these costs, on the assumption that credit was given for cessions of property and for deliveries in kind.

But, as the payments and credits received were provisionally retained by the Powers receiving them, Great Britain was some 22,500,000 pounds out of pocket. The credits included the value of the Saar mines, though this was not included in the sum available for meeting the costs of the army of occupation down to 30 April, 1921.

In June, 1919, it was promised that the cost of occupation should be reduced to 240 million marks a year when German demobilisation was satisfactorily completed. Later it was agreed that this sum should come into force as from 1 May, 1922.

The Dawes plan provided that the prior charge on German payments allocated to occupation costs should be reduced, as from 1 September, 1924, to 160 million marks, the balance being met by the countries concerned out of reparation payments.

The national income of Germany in 1913 was 45.7 milliard gold marks. In 1923 it was 60 per cent of this, in terms of 1913 purchasing power, namely, 28 milliard gold marks.

The cost of the armies of occupation, reckoned at 240 million gold marks, was thus less than 1 per cent of the national income, or, more exactly, 0.85 per cent.

The German budget expenditure in 1913 was 3.5 milliard marks. In 1924, after stabilisation of the mark, it was 7.2 milliard.

The cost of the armies of occupation was thus, in terms of the 1913 budget, 6.8 per cent., and in terms of the 1924 budget, 3.3 per cent of the national expenditure.

No. 77 -- Mon. Dec. 16, 1940 -- Silk Stockings

As a result of the restrictions placed on importation of luxury articles, pure silk will go out of the stockings worn by Canadian women. Whether this effort to conserve foreign exchange for war purposes will mean that milady's limbs will lose the smooth, smart appearance imparted to them by pure silk hose is a matter of conjecture. There will be no immediate ban on silk stockings as Canadian manufacturers have probably enough silk on hand to keep in production for at least six months. However, there is not the slightest doubt that stockings of the future will be made of artificial silk yarn and produced right here in Canada. It is only a matter of time until the mills are adjusted

to the use of artificial silk.

A new synthetic fibre known as Nylon has been introduced to manufacturers. It may be termed a chemically created silk and is said to possess a strength so far in excess of silk that the sheerest Nylon stockings will live longer than present heavy service weights. Nylon hose is much stronger and less likely to "run", yet it has the fine appearance of real silk.

At the present time the average woman wears out a few dozen pairs of silk stockings in a year. Should nylon yarn prove the success it now promises to be, a great decrease in the per capita demand for silk stockings will result. However, that is taking a glance far into the future.

Silk hosiery is a reasonably big business in Canada. Production in 1939 was valued at approximately one and one half million monthly.

No. 78 -- Tues. Dec. 17, 1940 -- Oulachon Spawning

Authorities do not all agree as to where oulachons spawn but, at any rate, there are spawning grounds along an 8-mile stretch between Mission and Chilliwack on the Fraser River in British Columbia. Scientists of the federal Fisheries Research Board have found that out.

Perhaps the name "oulachon" doesn't mean very much to some Canadians. A word of explanation may be useful. The name applies to a small but tasty fish, an excellent pan-fish of delicate flavour, which is found in Pacific waters and enters annually into British Columbia's commercial catch, though hitherto the fishermen have not sought it in large quantities. Popularly, the oulachon is known also as the candlefish--a name which comes from the fact that Indians sometimes dry the fish and burn it to give light.

Last year the fisheries scientists undertook some study of the oulachon and its habits in the Fraser, though not as a major piece of investigation. The Research Board people, of course, are continuously at work upon studies and experiments in the interests of the fishing industry and, naturally, different parts of their program are of different degrees of importance. Search for eggs in the oulachon investigation was carried on by dredging with a special drag along the bottom of the Fraser between New Westminster and the mouth of the Sumas River, near Chilliwack. No eggs were found below Mission bridge but above that point and as far up river as about a mile beyond the mouth of the Sumas they were taken in varying quantities. The heaviest concentration of spawn was found in water about 25 feet deep off Nikomen Island, which is four miles or so above Mission.

Signs indicated that the young fish feeble swimmers, are carried seaward soon after they have emerged from the eggs. There was some evidence, too, that the limits of oulachon spawning on the Fraser may be determined by the size of sand grains on different sections of the river bottom since the eggs apparently must find sand particles of suitable size to which they can attach themselves, by means of adhesive membranes, while they wait for hatching.

No. 79 — Wed. Dec. 18, 1940 — Canadian Oats

From time to time word comes to the Bureau that Canadian grains of the various kinds are much appreciated abroad. For example, we have been told that the city of Glasgow has the finest bread in the world and the reason given was that in that Scottish city the bakers used a larger proportion of Canadian wheat flour than did any other bakers of bread.

We have also had various compliments regarding the high quality of Canadian oatmeal, the samples coming largely from the Prairie Provinces. These compliments were also received from Scotland where the people quite definitely know their oats. This makes a very fitting introduction to a little note which has come from the Department of Agriculture concerning oats. It says:

As oats constitute the most important grain crop grown in the Central Interior of British Columbia, it is fitting that due consideration be given the particular variety of oats to be grown. It is a remarkable fact that a large number of growers do not know the name of the variety they are growing. However, in a territory, which is to a certain extent outlying, this lack of knowledge of variety name may be excusable. Nevertheless, the name of the variety and its adaptability should be known to the grower whenever possible.

In some instances, where the name of the variety is supposed to be known, the crop will be found to be little more than a mixture of varieties. The purchaser of seed grain, therefore, should be very particular as to source of seed. Good, pure seed of an adaptable variety will mean better yields than can be expected from seed of poor quality.

As varieties are being grown that are inferior to some of the standard varieties it is well to become familiar with the names and characteristics of a few varieties best suited to a wide range of conditions.

The oat crop is a safe one in the Bulkley Valley and gives good yields. Crop failures, as far as oats are concerned, are unknown although in a very dry season, crops have been reduced to one-half or two-third normal. While oats can be grown satisfactorily for feed purposes, the seed quality is not always reliable. This is due chiefly to difficulties in harvesting and threshing caused by fall rains and in some areas by summer frosts. Apart from damage caused by destructive frosts, occurring especially when the grain is in the milk stage, the farmer can generally store his crop in good condition.

The annual crop of oats is very large and much of it is consumed on the farms. It amounted to about 380 million bushels in 1940 as compared with 550 million bushels of wheat. However, it should be remembered that there are only 34 pounds in a bushel of oats and 60 pounds in a bushel of wheat.

No. 80 — Thurs. Dec. 19, 1940 — British Trade

British control of the high seas is one of the most amazing things in the history of civilization, and the fact that the overseas trade has continued in even greater volume during the war is a tribute to the power of British Commerce and a revelation

of the incompetence of the German Enemy to destroy it. Germany went to war, thoroughly prepared, as she considered it, but that mighty preparedness has been unable to destroy British Commerce.

Great Britain's important export trades are ably carrying out their double task of replenishing British resources in foreign exchange and of maintaining the goodwill of British products abroad in face of German propaganda.

The current year has constituted a period in which the difficulties of war conditions were greatly increased by the disappearance of various European markets. Yet the figures for that period show that the results of the British export drive have been most encouraging, and actually have increased.

Taking ten leading categories and comparing the nine-months period of 1939 with that of 1940, there has been an average rise in export values, in 1940, of over 35 per cent., ranging from 12 per cent. in cotton manufactures to over 66 per cent. in silk and art silk.

One of Great Britain's export industries which has done well in difficult circumstances is the Trade in electrical goods and apparatus.

The import figures, like those for exports, as said before, reveal how efficient is British control of the seas. Essential imports are going in at an even higher level than in 1939: they include grain and flour, iron ore and scrap, other ores, raw cotton, wool, iron and steel manufactures, non-ferrous metal manufactures, oils, fats and resins, and vehicles. Iron ore and scrap imports rose by no less than about \$30,000,000 - an interesting aspect, in view of the loss of many Continental sources of supply.

No. 81 -- Fri. Dec. 20, 1940 -- The Navy That Flies

Once referred to as the Navy's youngest child, the Fleet Air Arm to-day has grown into a young stalwart that has nothing whatever to learn about air fighting.

For many months of the war the naval Air Arm came little into the news. The traditions of a "Silent Service" are its traditions too. Little or nothing was said of the thousands of miles of the North Sea and Atlantic ceaselessly patrolled, of the clashes with enemy aircraft, the sighting and sinking of enemy U-boats. In the Atlantic, searching for enemy raiders, the Ark Royal which the Germans claimed to have sunk covered 75,000 miles while her planes reconnoitred five million square miles of sea.

Then came Norway. Within a few days of that gallant, ill-fated expedition the deeds of the Fleet Air Arm leapt into world prominence, when it played a great part in protecting our troops and ships against enemy bombers, and launched its own daring attacks upon the enemy bases, warships, transports and supply ships.

"We are proud of the Fleet Air Arm" was the signal made by the Admiralty to the young fliers at the conclusion of these operations. It is rare for the deeds of the Navy to be so warmly commended.

There was a Royal Naval Air Service before 1914. In 1917 the R.N.A.S. became part of the R.A.F. Most of its pilots and all its observers were provided by the Navy while the R.A.F. supplied the maintenance staff. As the need for a stronger Naval Air Force became apparent, it was decided to abandon the dual method. In May, 1939, the Fleet Air Arm passed to the control of the Navy.

To-day the Fleet Air Arm lives in the Empire's growing fleet of aircraft carriers, in warships carrying up to four planes each, in shore stations which, like all naval establishments ashore, carry the name of His Majesty's ships. There is H.M.S. Daedalus, H.M.S. Kestrel, H.M.S. Peregrine---to name but a few.

The machines flown by these gallant young men of the Fleet Air Arm are of first-class quality and can be used for nearly every purpose. There are a number of types in use, among them the Fairey Swordfish, the Fairey Albacore, the Fairey Fulmar and others.

As fighters, long-range reconnaissance machines and torpedo-bombers they have more than proved their efficiency.

The firing of a torpedo from an aircraft is as tricky a business as can be imagined. Though no details as to the exact method used to put three of Mussolini's capital ships out of action have been revealed, there are many who think that torpedoes, rather than heavy bombs, may have been used.

If this is the case, still greater credit redounds to the Fleet Air Arm. To fire a torpedo, the machine must come so low as to risk the almost point-blank range of the enemy's anti-aircraft guns. Despite the barrage, the machine must be poised with great accuracy at the low height and angle from which the torpedo reaches its mark.

No matter how the epic of Taranto was accomplished, the Fleet Air Arm inflicted a smashing naval defeat on the enemy. In addition, it provided a great new feather in the cap of the Navy that flies, and shows, if we did not already know it, that the Fleet Air Arm has taken into the air the naval tradition of centuries.

No. 82 -- Sat. Dec. 21, 1940 -- Rust-Resistant Wheats

The spread of rust-resistant varieties of wheat has been phenomenal. In two years these varieties spread through the entire wheat-growing area of Manitoba and a considerable portion of eastern Saskatchewan. The next year they reached the Alberta boundary, and during the past season were again extended westward and northward. In a large triangular area with its base on the southern border and its point on the boundary of Saskatchewan and Alberta at about Lloydminster, Marquis is still the predominant variety but a great deal of rust-resistant wheat is also grown there, and across the borders of Alberta where Red Bobs and Garnet are the predominant varieties.

One of the most interesting points about the spread of the rust-resistant varieties, Thatcher, Renown, Apex, and Regent, is that they have gone northward beyond the area where Marquis was a successful variety in non-rust years. This is because of their early maturity and since they give yields that are equal or higher than Marquis in the southern parts of the West, one is forced to the conclusion that

these new varieties have an even greater range of adaptability than Marquis.

Farmers who change over from a susceptible to a rust-resistant variety of wheat have these four good varieties to choose from. There are differences between them and consequently they are not all equally suited to given conditions, and nearly every farmer has his preference for the time being. Plant breeders were of the opinion, in giving the farmers at least four rust-resistant varieties, that this would give them an opportunity of selecting the one which was most suitable for their particular need.

The newest development is the production of improved strains of the new varieties. The improvement that has been made is very marked in Regent and Renown. The improved seed has been turned over to the great Canadian organization of seed growers, The Canadian Seed Growers' Association, and is being produced now as Registered Seed.

No. 83 — Sun. Dec. 22, 1940 — Supply of Whale Oil

The following article in the New York Times illustrates very well what has happened to the whaling industry in the Antarctic since the war began:

"Whaling in the Antarctic has been completely disorganized by the war. Even information about it has suffered an almost total blackout, partly because whaleoil products can be used in munitions, partly because the firms that normally produce harpoon guns and the explosive-headed missiles that they fire have apparently been drafted into war service.

"Only a few facts have leaked through the wall of censorship and the fog of ignorance caused by disrupted communications. Some of these facts, however, are causing grave concern among scientists here who are interested in the conservation of the world's largest mammals, the whales.

"Most serious element in the entire situation is the fact that the Japanese, notorious as the worst game hogs among whale-killers, have the whole Antarctic whaling ground to themselves this season. The biggest European whaling fleet, the Norwegian, had not got home last spring when Norway was overrun by the Nazis; their ships are scattered and tied up in neutral ports. The German whalers, of course, are still in Hamburg harbor--if British bombs have not ruined them.

"British whalers have not gone south this year. There was a two-year reserve supply of whaleoil in Britain when the war broke out and there are large quantities of oil in the United States at present for which there is no immediate market. It is waiting in bonded storage. Whale ships of other nations are negligible in number and their present whereabouts is unknown.

"All this sums up to one probability: That the Japanese whaling fleet, consisting of six factory ships and 48 attendant killer boats, will simply run amok in Antarctic waters, recklessly

killing every whale they can catch, in complete disregard of international conservation rules--to which the Japanese Government has consistently refused to adhere, anyway. The larger part of their catch will go to Germany, via the Trans-Siberian Railway, unless Balkan events cool off Soviet willingness to help Hitler."

In Canada whaling was resumed on the Pacific coast in 1940, following a year's layoff. Up to that time the industry had been carried on intermittently, according to market conditions. With the outbreak of war, world stocks of whale oil, bone meal and other whale products were greatly reduced, and the increased demand gave promise of very favorable market returns.

Oil is the chief product of whaling industry, and is used for leather dressing, lubrication, tempering steel, soap making and even for illumination. In 1938 Canada's production of whale oil amounted to 543,000 gallons, worth over \$162,000.

No. 84 -- Mon. Dec. 23, 1940 -- Concentrating on War Effort

The making of new models for automobiles, refrigerators, cooking equipment, radios, vacuum cleaners and typewriters in Canada is prohibited for the period of the war in order to enable Canadian toolmakers to concentrate upon the essential job of manufacturing jigs, dies and moulds which are essential in war industry.

The Hon. C.D. Howe, Minister of Supply, speaking in London, declared that the next eight months will witness a rapid expansion of employment in Canada and at the end of that period the Dominion should be producing the practical maximum of war materials of which the country is capable.

Mr. Howe announced that shells ranging from 40 mm. to 9.2-inch are now being produced in Canada, and the productive capacity is being increased to 2,000,000 shells per month. Arrangements have been made for the manufacture of guns and gun carriages in Canada of the following types: Bofors, AA guns, 3.7 anti-aircraft, 25-pounders, Col. T. Browning aircraft machine guns and tank machine guns, 6-pounders for tanks, 2 Pdr. anti-tank, 4 and 6-inch naval guns, 12 Pdr's and Lee-Enfield rifles.

Mr. Howe also announced that negotiations had been completed for construction in Canada of 18 large merchant vessels for the British Government. He said these would be built in shipyards on the St. Lawrence river and the Pacific coast.

No. 85 -- Tues. Dec. 24, 1940 -- Medicinal Plants and Herbs in Wartime

In wartime there is a general desire to make a contribution to the war effort no matter how small that contribution may be. It is being suggested continuously that one such contribution might be the collection and cultivation of medicinal herbs. The Dominion Botanist states, it is not surprising but regrettable that many enthusiastic and willing helpers have been misled by somewhat exaggerated

accounts of the value of medicinal plants and plant products.

Recently in the United Kingdom the Medical Research Council has dealt with possible requirements and the importation of drugs, and has recommended the use of substitutes wherever possible so that shipping space and foreign exchange may be conserved for more essential materials. At the same time the Council advocated that the production of drugs more generally used in medicine should be increased within the Empire. In most instances profitable collection or production of these materials requires preliminary scientific study and above all a very careful organization.

It should be made perfectly clear that a surprisingly small number of genera and species of plants are possessed of specific medicinal properties for which there exists a demand largely brought about by the discontinuation of supplies formerly received from European countries now involved in the war. By far the largest number of loosely called medicinal plants, detrimentally confused with the potential requirements for plants of real medicinal value, are used either by manufacturers of patent medicines for the manufacture of all kinds of herb preparations which have long been expunged from all official pharmacopeias as of doubtful value, or simply as kitchen herbs or spices not vitally essential in wartime. Dandelion roots which contain a bitter substance are considered unnecessary by the Medical Research Council and such products as burdock roots and couch grass roots are not even listed. Similarly other plant products may now be regarded more or less as luxuries not essential in war time.

There should not be the least doubt in the minds of persons eager to do their share in a united war effort where preference should be given. Let the collection and production of aromatic, bitter, astringent, or less useful herbs be postponed until the authentic requirements for valuable medicinal plants have been provided.

In view of the recommendations issued by so authoritative a source, the more or less haphazard collecting of medicinal plants or their products, especially if the collector has the idea of receiving a considerable financial return, cannot conscientiously be advised. The promiscuous collecting, especially on a large scale, of materials not vitally needed in Great Britain is liable to result in waste effort since the individual collector will probably find it difficult to dispose of his product.

The wholesale drug companies are not eager to buy from the small collector or producer since they cannot be certain of the identity, uniformity of quality of the product, and of a continuity of supply. It is fundamentally necessary not only to be absolutely certain of the identity of the plant but to harvest the parts required (root, leaves, flowers, etc.) at exactly the right time and to dry and prepare these under carefully controlled conditions. Otherwise the product may not have the required drug content and may be quite useless.

The production of patent and proprietary medicines pharmaceuticals and similar commodities in Canada in 1938 was valued at about \$25,000,000. The majority of the plants are operated in Ontario and Quebec.

No. 86 -- Wed. Dec. 25, 1940 -- Christmas Tree Trade

Millions of Christmas trees will again bring joy and happiness to homes in the United States and Canada. Handed down from ancient times, the delightful Christmas

tree custom now provides an important seasonal forest industry. In addition to supplying a supplementary source of revenue to Canadian farmers, this year the export of Christmas trees to the United States will help establish foreign exchange for the purchase of war supplies.

Last year approximately six million evergreens were cut in Canada as Christmas trees, of which almost five million valued at \$574,235 were exported to the United States. New York City alone took about 750,000 trees, while large shipments were made to Boston, Philadelphia, Cleveland, Detroit, and Chicago. On the Pacific coast, the large cities as far south as Los Angeles now offer an attractive market for British Columbia trees. About a million Christmas trees are used annually to decorate Canadian homes during the Yuletide season.

Balsam fir, Douglas fir and spruce are the species favoured by the Christmas tree buyers. Balsam fir is most popular in the East, because of its quality and pyramidal shape. Spruce, obtainable nearly everywhere, is also widely used. For several years Douglas fir from British Columbia has been growing in popularity in the United States market, and recently there has been an increased demand for Scotch pine, especially in border cities adjoining Ontario.

Canada's growing Christmas tree trade offers no serious threat to the forests, as under proper management the present cut could be produced in perpetuity on an area of less than two hundred square miles. Indiscriminate and wasteful methods used by some tree dealers are condemned, but the orderly cutting and marketing of the annual crop provides the basis for a legitimate and profitable industry. Formerly young trees for the Christmas trade were secured with little or no difficulty from the woodlands or pastures situated within convenient distance of towns, villages and other shipping centres throughout Eastern Canada, particularly in Quebec and the Maritime Provinces. Within the past few years, however, a scarcity of suitable trees has been experienced in some localities with the result that many farmers are now growing Christmas trees on managed plantations.

No. 87 — Thurs. Dec. 26, 1940 — Value of Giving Facts

Public opinion in Europe is waking up after being dazed by the swift triumph of German force between the invasion of Norway and the collapse of France. And it wakes to the voice of Britain.

Since the victory of the R.A.F. in the Battle of Britain, German news and propaganda have suffered a severe slump, while British news and propaganda have enjoyed a boom. From all over Europe comes evidence of widespread and increasing listening to broadcasts from London.

In France particularly, the public turns to the B.B.C. news in French as its main channel of contact with the outside world. The pro-Laval element in "unoccupied" France fret and fume at this. Vichy has found it necessary to impose a ban on public listening to British Broadcasts. Hatred of the Germans, and realisation that — however honourable and fine-spirited Marshal Petain may be — Vichy can only be a tool of German domination, are rising steadily. A nation nursed in democracy, convalescing from a period of psychopathic self-accusation — of hyper-consciousness of sin — after defeat, is chafing under dictatorship. Even Le Temps, organ of pro-Fascist "big business" and a leading mouthpiece of

German and Italian propaganda, has acknowledged that "totalitarianism is impossible in France."

In the Occupied Zone the people are even more pro-British. The Paris correspondent of the Madrid newspaper Ya - not a particularly friendly organ - has written of "a veritable pandemonium of British radios pouring news through balconies, windows and patios." The Germans are obviously quite unable to stop it. The frank and simple slogan adopted in one of the B.B.C. broadcasts, "Radio Paris Ment" (Paris Radio Lies") has become a popular byword. Newspaper boys in the occupied capital have been heard crying "Paris Soir Mensonge", as if a corner vendor were to shout: "Evening paper! All the latest Lies!"

There is a story of a woman crossing-sweeper in Paris, a drab and ragged creature, who suddenly became inflamed with disgust at the Germans' humourless strutting ways, and in coarse mimicry goose-stepped down the Champs Elysees, her broom on her shoulder. In her there flourished the spirit of France to-day.

Although the French have no means of forcible revolt against their oppressors, all this is of the greatest importance in the conduct of the war against German morale. For the German occupying troops see around them a resentful population, detesting them and admiring their enemies, loving freedom, irrepressibly individualist, able to make more of life on the miserable fare which is all that the conquering looters have left them, than the Germans can with the best to choose from. This is an atmosphere that breeds discouragement, homesickness, and bad morale, of which there have been several plain signs among the German forces.

Cold-shouldering, and indirect access to truthful news, are having their effect on the Germans in other occupied countries. In Brussels, when Germans board a tram, all the other passengers get off. The cinemas which show German news reels are empty. If a German asks a Belgian stranger for a light, it is offered, but the Belgian throws away his own cigarette.

In Holland, the German-controlled Hilversum radio has had to complain that ministers of the Church select ambiguous texts for their sermons in order to point an anti-Nazi morale. The German periodical "Das Reich" has grumbled: "The heavy and slow-moving Dutch do not want to realise the truth of what has happened to them." Here, too, there is widespread listening to the British radio. Professor C.W. de Vries of Rotterdam has been sentenced to 18 months imprisonment and a fine for introducing some remarks about the Dutch Royal House in a speech with the words: "As I myself heard over the radio and as you will have heard"

It is the same in other countries of Europe, whether German-occupied, German-controlled, or independent. The foundation of free public opinion is British news. Its truth has won a victory as important as the Battle of Britain itself.

No. 88 -- Fri. Dec. 27, 1940 -- Tomatoes on the Prairies

The tomato is now regarded as a staple crop in the Prairie Provinces, and its successful culture is gradually extending northwards. This is largely due to the advent of varieties of the determinate type, and present indications are that breeding tomatoes for the prairies will have to do chiefly with the production of better adapted and higher quality determinate varieties.

The indeterminates, have, indeed, some representatives which produce rather light foliage-growth, are early, and succeed well without special attention. Foremost of these is Earliana, a variety still grown extensively on the prairies today. The variety has faults, however, in thin skins, a deep green colour at the stem end, which is often conspicuous even when the remainder of the fruit has turned red, shallow fruit, and a pronounced tendency to crack. Abel, Alacrity and Herald are others which have succeeded because of their earliness and productivity, but have not the fruit qualities of newer varieties. Break O'Day and Pritchard produce excellent fruits, but do not yield as well as the better adapted determinates, such as Bounty, Victor, Redskin, Allred and Bison.

What are the characteristics which make this determinate type of value to the prairie grower? The first limitation to successful growing of tomatoes on the prairies is shortness of season. This is one of the chief reasons for pruning and staking. By this procedure the plant is usually limited to a single stem, all lateral growth taken out, and topped after five blossom clusters have set. This forces the energy of the plant into ripening relatively few trusses, and, consequently, earlier fruits are obtained. Staking and pruning, however, require a good deal of attention. The characteristics of the determinate tomato are such that a relatively large amount of fruit is set in comparison with the amount of foliage. Plant weight, excluding fruit, are much smaller than those of the indeterminates. The average plant weight for two rather light vined indeterminate varieties in a replicated yield trial at the Morden Station during the 1940 season, as measured at the end of the growing season was 8.75 lb., and the average for five determinate varieties in the same trial was 3.24 lb. The determinate plant branches profusely, and produces blossom clusters at every internode, that is, with only one leaf separating them. It is literally self-pruning, and after growing a short distance, terminates its growth in a blossom cluster. The indeterminates, on the other hand, branch less profusely, the blossom clusters are usually separated by three leaves, and growth continues indefinitely. A wide spreading plant results, with fewer fruits per plant.

Well adapted determinate varieties, especially early in the season, will usually yield much more heavily than the average indeterminate, when neither is staked nor pruned.

The number of determinate varieties is at present limited, and it is only within very recent years that good quality varieties have been produced. Roughness has been a big failing of the determinate tomato. This is now being eliminated, and, undoubtedly, the list of varieties in this class will continue to show still further improvement.

No. 89 -- Sat. Dec. 28, 1940 -- Polish Fighter Squadron

One hundred and twenty out of 300 German airplanes brought down by Polish airmen in the Battle of Britain have been destroyed by the "303 Fighter Squadron," the "Warsaw Kosciuszko formation" named after the capital of Poland and the great patriot of the eighteenth century.

The Polish Air Force in Britain is repaying the Nazis for the tragic fate of Warsaw and the Polish cities destroyed in the September, 1939, campaign. The Poles fight over Britain as they fought over their own country: they go on with the unfinished Battle of Poland.

They have a natural gift for flying. Born horsemen, the Poles are cavalry of the air, proud to ride those British thoroughbreds, the Hurricanes and Spitfires. The Poles caress their machines, talk to them as if they were living creatures. The man and the plane are one - that is the secret of the Poles' prowess in the air.

In the Polish campaign the Poles had only 15 Fighter Squadrons with fairly out-of-date machines - yet 500 German planes were shot down in the air over Poland. The Polish pilots often rammed the German bomber, sacrificing their own lives rather than allow the enemy to escape.

From Poland the pilots made their way to France, but shortage of equipment prevented them from flying. Those who were fortunate enough to reach Britain were soon presented with an opportunity to fight the Nazis. They took the air in August and distinguished themselves in the September air battles. Within a week they bagged 70 Nazis.

One of the exploits of Polish fighter-pilots is that of a sergeant who in the course of a battle over Dover, found a Messerschmitt 109 sitting on the tail of a British machine. He fell in at the rear and shot the German down before he had time to fire. The German crashed and burst into flames. The Pole's bag was five machines in the day. He was later decorated with D.F.M., the first Pole to receive the honour.

An officer who brought down five German planes in Poland and four more since he reached this country was wounded, when he baled out after the destruction of two Dorniers over London.

"The German bombers were flying in open order, with an escort of fighters," he related. "I made for the bombers and hit one of them. It caught fire and went down, breaking up in the air. I still had some ammunition left and I did not like the idea of returning to my base with it.

"I saw four bombers some distance away. I sailed into attack and damaged one of them. I decided to polish him off. As I was attacking I felt a severe jolt, with pain and numbness in my right leg and arm. My machine went in a spin. I managed somehow to get out of the cockpit and came down with terrific speed. I do not remember how I found the ripcord and tugged. The parachute opened and I landed safely".

No. 90 — Sun. Dec. 29, 1940 — Record Mineral Output

Accelerated by wartime demands, mineral production in Canada during 1940 exceeded a value of \$500,000,000. This is an all-time high, and compares with the previous record of \$474,602,000 in 1939, and with \$457,359,000 in 1937.

New records in both quantity and value of gold have been established, with the value of the 1940 production of the precious metal estimated well in excess of \$200,000,000 as compared with \$184,000,000 in 1939. Most of Canada's gold is exported, principally to the United States, and the increased output largely reflects the policy of the mines to produce the metal at a rate as high as sound mining practice will allow in order to provide foreign exchange for the purchase of war

materials.

Base metal production figures cannot be disclosed, but the outputs of copper, nickel, lead and zinc were greater than in 1939. Canada holds an exceptionally strong world position as a producer of these metals, ranking first in nickel, second in zinc, third in copper, and Fourth in lead. In addition to meeting the increasing demands of wartime industries in the Dominion, huge tonnages of Canada's base metals are exported to the United Kingdom.

Canada also produces large quantities of silver, platinum, asbestos, gypsum, coal, salt, petroleum, and other minerals. The list of minerals produced in commercial quantities includes 23 metals and 20 non-metallics, as well as clay products, structural materials and fuels.

Canada's mineral production in 1915, the second year of the first great war, had a total value of \$137,000,000. The past year's achievement in exceeding the half-billion dollar mark thus reflects the strengthened position of the Dominion as a supplier of metals and minerals vital to the war effort.

No. 91 -- Mon. Dec. 30, 1940 -- Employment During 1940

Industrial activity in the Dominion showed pronounced expansion in 1940, resulting in a higher level of employment than in any other year for which statistics are available. While there was the customary slackening during the first few months of the year, the number on the payrolls nevertheless was at a maximum for the winter. The favourable movement was resumed in April, and continued uninterruptedly and with growing momentum until the first of November; from July 1, successively new, all-time high levels of employment were established. Between April 1 and November 1, there was an increase of 24 p.c. in the index number of employment, a gain which exceeded that reported in the same period of any other year of the record. At the first of December, there was a slight slackening, but the falling-off was decidedly less than the average loss recorded at the opening of December in the preceding 19 years for which data are on record.

While there have been wide-spread increases in industrial employment in recent months, the gains in the more highly industrialized provinces of Quebec and Ontario have been especially impressive.

General improvement has also been recorded in the various groups of industries, those in manufacturing being particularly marked. In this division, employment averaged practically 17 p.c. higher in 1940 than in 1939, while the index of employment, based on the 1926 average as 100, reached successively new, all-time peaks each month from February; the figure for December 1, was 144.7, as compared with 122.2 at December 1, 1939, the previous maximum for any month in the record of 20 years. Within the manufacturing group, iron and steel, non-ferrous metals and electrical apparatus showed very marked expansion, but the improvement also extended without exception to other branches of manufacturing.

Among the non-manufacturing industries, there were increases in employment in logging, mining, transportation, communications, services and trade, and in building and railway construction and maintenance; the only exception to the generally upward movement was highway construction and maintenance in which activity was

considerably curtailed, partly with the intention of postponing until after the war, work which is not immediately necessary, and partly because of the diminishment in unemployment relief projects.

No. 92 — Tues. Dec. 31, 1940 — Canada Faces War's Supreme Test

As the year 1940 draws to a close, Canada is driving swiftly ahead, in firm resolve to meet the supreme test of war. In sixteen months, a peace-loving people of twelve millions has been transformed into a nation united in determination to pursue the war to a finish.

A Canadian Army Corp awaits in the United Kingdom its call to the Front Line. Canadian airmen have fought in the Battle of London and elsewhere. Canadian naval vessels are patrolling Great Britain's life-line of the sea. Three Canadian contingents and one Australian contingent of graduates under the Empire Air Training Plan have already arrived in Great Britain from Canada. The Canadian Navy which, at the outbreak of war, consisted of only 15 vessels now has 120 naval craft. Within a year, 100 vessels will be added. Foodstuffs, ammunition, guns, aircraft, motorized equipment, with a great variety of other equipment, are pouring across the Atlantic in an ever-increasing stream.

And, in the economic field, Canada is contributing as she could not contribute in the Great War of 1914-18. Economic activity in Canada is at a higher level than ever recorded before. In the first ten months of 1940, it rose 19.4 percent over the level for the corresponding period of 1939. Dominion Bureau of Statistics returns show the highest level of industrial employment in 20 years.

War orders placed for Canadian account alone total more than \$390,000,000. Fifty-five main airports have been constructed. Canada is turning out guns, shells, ammunition, bombs, airplanes, components for tanks.

Canada has become one of the great industrial nations of the world. Chief sources of her industrial strength are her farm lands, her abundance of cheap electricity power, her forest wealth, her wealth of metals and minerals.

Her mining and metallurgical industries have become leading world producers of copper, nickel, lead and zinc — four of the most essential war minerals — and of asbestos and platinum. They produce large quantities of such other minerals essential to industrial use as coal, petroleum, natural gas, gypsum, salt, cobalt, mica, sulphur, selenium and cadmium as well as cement, clay products and other structural materials. Owing to its abundance of cheap electrical power, Canada is a leading producer of aluminium, the most essential of warplane metals. Likewise, the Dominion is listed among the chief producers of gold and silver. Canada's 1940 production of gold alone is estimated at \$200,000,000; and in providing credits for war purchases abroad, gold production is of prime consequence.

Canada's total mineral production for 1940 is estimated at an all-time record of \$500,000,000. Ten mine products, all of the greatest importance in national war economy, contributed 90 per cent. They were copper, nickel, lead, zinc, gold, silver, the platinum metals, coal, petroleum and natural gas.

Canadian development of base metal production has provided a large reservoir of

vital war metals requiring the ~~minimum~~ of ocean shipping for delivery to the British armament industries. It conserves Empire foreign exchange by reducing the purchases of these metals which would otherwise have to be made from neutral countries. Because of low-production costs, it conserves the financial resources of the Empire

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DEPARTMENT OF
TRADE AND COMMERCE



A FACT A DAY ABOUT CANADA

FROM THE

DOMINION BUREAU OF STATISTICS

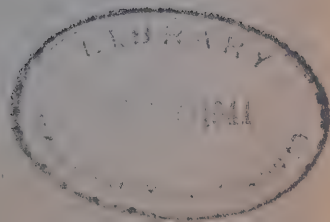
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James Muir,

Editor.

from the

Dominion Bureau of Statistics

No. 93 -- Wed. Jan. 1, 1941 -- The New Year

To-day we have begun a new year and Canada is still in the midst of war. Our young men are still training to take their part in the front lines against the enemy which is determined to destroy our nation, our liberty, our civilization and our religion. Many of them have already gone overseas to the British Isles where the front line of our democratic struggle is, and many more will follow them before the forces of totalitarian aggression have been destroyed.

There has been a vast change during the past year in the scheme of things in Canada as in all the countries that are engaged in war. When we were wishing one another a Happy New Year just twelve months ago few imagined that such peace-loving countries as Norway, Denmark, Holland, Belgium and France would be overwhelmed by the war machine which Chancellor Hitler of Germany had for years been building up. Most of the rest of the world had placed some reliance upon the pledges given by the Chancellor that his march of aggression had ended, and none of these countries was at all prepared to resist the march of a regimented people who were to become the outstanding European brigands of all time.

The world, however, was soon disillusioned and these countries fell before the drawn sword of the Germans in quick succession, until to-day in this new year of 1941 we are facing the solemn fact that Great Britain and the British Commonwealth alone has unbroken entities left to bear the brunt of the battle. On the shoulders of the comparatively small Island kingdom of the North Sea the full forces of the mighty strength of Germany, Italy and the slave labours of the conquered countries of the continental Europe is falling. Never was such a tremendous task given any people in the whole history of the world and the British people are being tested as never before.

On this New Year's Day there are some breaks in the clouds. One attempted invasion of England has been broken, principally because of the courage, enterprise and skill of the Royal Air Force, in which many young Canadian men are playing an important part along with others from beyond the seas, wherever the British flag flies. It is not too much to say that these Commonwealth airmen have proved themselves as brilliant in mind and valour as the most brilliant of their ancestors of a thousand years. At the same time men in the other forces that are fighting their way to ultimate victory have shown themselves to be of the same metal.

Then there are other breaks in the clouds that seemed almost impossible only a few months ago. The Greek army has resisted successfully the Italian invaders and has driven them from Greek soil. The forces of Mussolini in Albania have met disaster after disaster and seem to be on the verge of overwhelming defeat in Albania, that little corner of southern Europe that had been crushed by Italy. On the continent of Asia the splendid cooperation of the Royal Navy, the land forces and the Royal Air Force have combined to destroy the Italian arms and appear to be on the way to tearing "to shreds and tatters" the Italian empire on what used to be known as the Dark Continent. In the operations which have swept along the northern coast the Australian troops, the fighting men from British India and the Free French forces of General de Gaulle along with English, Scottish

and Irish, have displayed remarkable power and strength. The forces of British South Africa and Kenya are moving up towards Ethiopia and the prospects are that in a very short time the Italians will have been driven out of the war, so far as Africa is concerned, and will have lost an immense number of fighting men.

And then there is the help which the United States has promised to give to the democracies. That it will provide the balance of power which will bring Britain to a victorious conclusion, is beyond all doubt.

Little more need be said, because whatever is recorded today is old by to-morrow in the swiftly passing show. It may very well be that before 1942 rolls around the changes that have occurred during the past year will be completely overshadowed by the changes that will have occurred during 1941.

No. 94 — Thurs. Jan. 2, 1941 — League of British Nations

Before 1914, the British Empire was still considered as an expansion of Great Britain — a Greater Britain, spreading British culture and British principles over many lands.

It was acknowledged that the British Dominions were self-governing, and that, in theory, they were individual nations. But they had not acquired any real weight as separate factors in world affairs.

The Great War of 1914-18 changed the whole picture of the Empire, both for British eyes and for those of other nations. It was seen that the British Empire was a great organism living of itself, not drawing all its strength from the Mother Country.

Dominions and Colonies alike were able to give to the British cause not only the aid of men and materials, but the vital reinforcements of intelligent, free-thinking collaboration.

What of this war? The outbreak found the British world far advanced in historical development, not only from the Empire of the early years of the century, but also from the Empire of 1918.

In the first place the Statute of Westminster had affirmed, and events had clearly shown, that the Dominions and Great Britain now stood in the relation of autonomous and equal nations bound only by fealty to a common sovereign.

In the second place, the Dominions had developed so rapidly and so greatly in industrial and political organisations that they brought to the war effort not only the counsel of a number of minds but the weight of a number of great nations.

In the third place, history had radically changed the relations between the British nations and foreign countries.

Canada had reached a new and historic understanding with the United States, as between equal and independent nations.

Australia and New Zealand faced new problems in the Pacific, with Japan no longer an ally — but they faced these problems with new freedom of decisions, and new power to back their decision.

South Africa, despite her internal difficulties, had a new responsibility, and a new resolve, as a power whose influence was destined to guard the cause of freedom over a great part of the African continent.

In short, each Dominion found itself living the life of a nation, with its own obligations and opportunities, both in the field of peace and in that of war.

The war against the aggressors has been launched, and will be carried on, not by one British nation, but by a league of British nations, one in creed and one in purpose, but bringing to the battle the strength of many great forces united.

No. 95 -- Fri. Jan. 3, 1941 -- Commercial Progress under War Conditions -- 1

Many people have been wondering - and reasonably so - what is happening to our Canadian Commerce, especially its overseas trade, as the result of war. The Hon. James A. MacKinnon, Minister of Trade and Commerce, and incidentally the Minister in Charge of the Dominion Bureau of Statistics, has the following to say of the situation. Read it carefully.

The progress of Canada's commerce during the past year must be viewed in the light of its relationship to the war struggle in which the British Commonwealth of Nations is engaged. Our main policy has been to assist, to the full extent of our resources, in the victory against aggression. Statistics do not reveal the whole story.

In bald figures we are to-day doing approximately a total annual external trade of two and one-half billion dollars, or almost one-third more than we were doing a year ago. Our exports are much greater than our imports and the Canadian products we send to Empire countries comprise considerably more than half of our total domestic exports. The increase has been about fifty-five per cent.

The problem of Canadian commerce when this young British Dominion rose to arms, was first of all to align all our sea-borne and domestic commerce in the direction of the greatest aid possible to the United Kingdom in her heroic defence, and in the accomplishment of that purpose, we had also to see to it that the trade we had lost with the conquered and conquering countries of continental Europe should be diverted into other channels or increased in those directions which remained to us.

It is fundamental in our Canadian economy that we must carry on an international trade far beyond the necessities of most other nations, pro rata to population. In peace years our per capita commerce is one of the very highest in the world. To conserve our position in war time was of the utmost importance. In that enterprise we have been highly successful.

Let me briefly explain the underlying reason for the unquenchable optimism of the Canadian in this conflict. That optimism is frequently observed by commentators.

At the present moment - and please note that I am speaking only in terms of war days - the North American continent is more than half the whole economic world. The British Commonwealth and the United States together represent somewhere between one-half and three-quarters of the economy of the universe.

Canada has not been unmindful of the commercial difficulties which Great Britain is facing and we have been able to assist in a direct and substantial way. British producers have faced special obstacles in export markets in war time because of the higher costs of production and the greatly increased shipping freights and insurance cost. To overcome these disadvantages the Canadian Government, therefore, decided to remove or reduce the tariffs impeding the entry of British goods into Canada wherever this was practical and at the Session of Parliament in December we arranged that duties should be removed completely on all cotton items, on all artificial silk items, on gloves and mitts of all kinds, jellies, jams and marmalades, and a number of miscellaneous items. In addition duties will be reduced on a considerable list of British imports including medicinal and pharmaceutical preparations, soap, earthenware tiles, stoneware and earthenware, table cutlery, bicycles, electrical generators, transformers and motors, rugs and carpets, oil cloth, and linoleum. In this manner we have shown our desire to help indirectly as well as directly in the war effort.

No. 96 -- Sat. Jan. 4, 1941 - Commercial Progress under War Conditions - 2

As regards Canada more particularly, our Dominion is now the third largest exporting country. In peace time I would have stressed this more, but, while naturally we take some pride in the achievement, remembering that not very long ago we were only an assortment of colonies and now occupy so important a place in international commerce, I know that my countrymen are with me when I say that the greater satisfaction is that we are able to provide a help in this crisis which will be felt wherever the enemy chooses to strike. The power and endurance of our Commonwealth and American commerce is beyond question.

Commerce is a mirror of strength, and therefore to us in Canada it appears inconceivable that Democracy at its peak can be doomed to perish from the earth. Hence the optimism of the men and women who have gone across the Atlantic as volunteers to take their places in the forefront of our defence.

When war broke upon us, we had the experience of the last war and a quarter of a century since to assist us in our plans. It was our object to harness our industries to war needs and so dispose our internal economy that after victory, the least possible dislocation would take place. Luxuries such as the annual new automobile were frowned upon. We appealed to industry. Industry responded with fervent zeal and buckled to the task.

We have kept in mind that one of our chief concerns was to take care that as many as possible of our factories, while engaged upon the main purpose of producing supplies that are vital when the country is at war, should not be found idle when the victory has been won. A totalitarian war is different entirely from the old wars between standing armies. All of our people in one way or another are engaged in this war, and we have seen our peacetime operations directed towards the task of conquering our enemies. The advancement of science and the blessings it has brought to people everywhere have been turned into agencies of destruction. In some respects, therefore, we are almost at a standstill. For example, there are fewer prospectors in our hinterland, yet our mineral production last year broke all records. There has been curtailment in certain other directions. So when war has ceased, those industries will return to their peace time projects to an extent never before experienced when nations were divided against nations. There will still be a high demand for the products of the mines.

The outstanding feature of our commercial relations, internal and external, has been the hearty cooperation we have received everywhere. Need I mention the United States? Close neighbours along a four thousand mile frontier, we understand the people of the Republic and they understand us. We are blood kin, and the trade between us is the largest between any two other countries of the world. Their sympathy and assistance, their hearty cooperation in the output of needs for ourselves and the Empire since war began has been an inspiration. It has drawn the English-speaking peoples very close together.

Cooperation has increased our production in the required industries so rapidly that the measure of to-day's fulfillment is always lower than that of to-morrow. I shall not say much about the specific contributions Canada is making. That they will become growingly effective as the days go by, you may be sure. One instance of our effort is true of the general picture. Our production of trucks is more than ten times what it was a year ago. Practically all the trucks operating in Northern Africa, were made in Canada.

As I have indicated, our exports to Empire countries have increased spectacularly and we have had it in mind from the beginning that the necessities of life, as well as implements of war, must reach the United Kingdom in ever increasing quantities. Our deliveries of grains have greatly increased. Meats have doubled, while eggs, which did not previously rank high amongst the commodities that we sold in the United Kingdom market, are now assuming large proportions. Our lumber export to Great Britain has made a great advance. Newsprint has moved up impressively and wood pulp has been transported across the Atlantic, in about ten times greater quantity. Indeed it may be said that along the whole range of the British peoples' necessities Canada's contribution has vastly increased. At the same time, we have not been unmindful of the needs of other parts of the Empire.

In conclusion, as you well know, fifth column activities in the Americas had secured a foothold before Hitler ran riot in Europe, but these subversive elements have now been labelled and bridled and the vast majority of the inhabitants of the Americas, from Hudson Bay to the Magellan Straits are with us in the battle. The commercial relations which we have established in all the American countries teach us so.

No. 97 — Sun. Jan. 5, 1941 — Water Power in the North

Hydro-electric power has been turned on at Yellowknife. The Con, Negus, and Rycon gold mines are receiving electrical energy from the first hydro-electric plant in the Northwest Territories, located at Prosperous Lake about 18 miles north of Yellowknife. Provision is also being made to supply the domestic requirements of the settlement. In addition Ptarmigan Mines Limited, Giant Yellowknife Gold Mines Limited and the Thompson-Lundmark Gold Mines Limited will be supplied with power in the near future.

Previously power for mining operations in this northern gold field was supplied by diesel units, the oil being shipped to Yellowknife from wells below Fort Norman, N.W.T., or from Alberta. The change to hydro will provide cheaper power, and thus enable the profitable working of lower-grade ore bodies.

Work on the project got under way in April, 1940, after one hundred tons of equipment and supplies had been shipped to Yellowknife by tractor over the

Grimshaw-Great Slave Lake winter road and then by truck to the power site. The plant is estimated to have cost about \$600,000, and the work included the construction of a rock-filled timber dam 760 feet long and 16 feet high, a rock tunnel 800 feet long, a wooden penstock with a 90-foot surge tower, a frame powerhouse and sub-station, and a 33,000 volt steel tower transmission line for the delivery of the 4,200 horse-power of the initial development.

No. 98 -- Mon. Jan. 6, 1941 -- Mass Housing Project

Surmounting colossal difficulties that involved plans, layouts, locations, estimates, materials and labour, completion of permanent encampments for some 125,500 officers and men in the months just past constitutes an amazing record in Canada's war effort.

Thirteen encampments for the Active Army and thirty-nine for recruits called for training in accordance with the provisions of the National Resources Act are covered in this program of erecting and equipping to the last detail 2,500 new buildings suitable for year-round use.

Like modern towns and small cities, these camps have their own water, sewage, light and power systems, and living quarters have all the conveniences of city homes.

Blocks of buildings include hutments for sleeping purposes, dining halls, recreation centres, messes, headquarters' offices, canteens, stores and supply depots, hospitals and dental clinics, rifle ranges, etc., all neatly laid out.

As an example of the speed at which this Dominion-wide project has been carried out, 6,000 acres of second-growth forest land was turned into a camp capable of accommodating 13,000 men between the middle of August and the end of the year at Debert, Nova Scotia.

Some of the other camps had few buildings and were summer camps only. To-day these are all provided with permanent hutments. Over a hundred million board feet of lumber, 71,700 windows and 27,300 doors are figures illustrating the quantities of materials used.

To the Quartermaster-General, responsible for accommodation of the Army, the Director of Engineer Services, responsible for the construction of Works and Buildings, and their staffs together with the Corps of the Royal Engineers, and the cooperation of Canadian industry, already busy with many other phases of war production, goes credit for this master feat.

No. 99 -- Tues. Jan. 7, 1941 -- Empire Fighters

Canadian soldiers who recently landed in Britain had one thing to say: "We crave action!"

That goes for the fighting men of every country of the Commonwealth. They joined to fight; they have trained to fight; they are burning to fight. And every day now more and more of these warriors from all over the world are getting the action they crave.

With the British Army in the Western Desert campaign, Australians, New Zealanders and Indians face the kind of war for which above all their rugged, individualist character fits them. In the Sudan, Indian soldiers have already shown their fire, their steadfastness, and their initiative.

In East Africa, troops from the Union, from Rhodesia, from West Africa, and from East Africa itself, harry the Italians with the skill and dash of born skirmishers.

In the air, except for the fine work done by the individuals and squadrons attached to the R.A.F. in Britain, South Africans were the first Dominion air force to get into action, and they have been in it consistently and with effect. By now, the Royal Australian Air Force has joined the air blitz over the Western Desert. R.A.A.F. fliers shot down six Italian planes in one day, as soon as the British attack began in early December.

In the Middle East Command of the Royal Air Force are men from many parts of the Empire, including Palestinians, both Jews and Arabs.

At sea, the intensified raiding of commerce by German submarines, surface craft and airplanes has brought increased opportunities for action to the great number of men of the Dominion navies on service in co-operation with the Royal Navy, and to the men from Newfoundland, Malta, Cyprus, the West Indies and other Commonwealth countries who are on the strength of the R.N. itself.

Every day, on perilous patrol and in hot action, these sons of the Seven Seas are proving worthy of the highest traditions of British seapower.

Canadian ships in the grey North Atlantic, Australian ships everywhere from the South Sea Islands to the Indian Ocean, and from the Timor Sea almost to the Antarctic; Indian ships around the coasts of the vast peninsula and in the Red Sea; Malayan and African and West Indian patrol craft on their own "beats" of the world-wide police district of the seas.....all these diverse fleets with their diverse crews are ceaselessly on vigil and on guard.

By sea, land and air the Commonwealth's fighting forces are swinging into action, and behind them the mighty war potential of these united nations stands mobilised for total effort.

No. 100 -- Wed. Jan. 8, 1941 -- Food for Hitler's Guns

Here is what a woman has to say about the pantry in connection with the total war that is upon us: As a woman, I feel that any woman anywhere who can look at a well-stocked pantry should thank heaven for two things. She should be grateful that the essential articles of the family diet have come her way and, in the second place, she should be glad that they have not gone to Hitler.

For if Hitler had them, they would be used, not for food merely, but in many cases for the manufacture of weapons of destruction. In Nazi Germany parts of aeroplanes are made of milk, the fuel for some of these aeroplanes is provided by alcohol extracted from potatoes, and butter is made into explosives.

This may sound somewhat fantastic, but the whole development of the German "substitute" industry and the Nazis' exploitation of the most unlikely materials for the manufacture of armaments by means of which they hope to gain the mastery of the world is even more fantastic than that.

In countries with a democratic and humane outlook it would be thought shameful to convert foods essential to the health of the population into bombing aeroplanes and explosives. A very different morality, however, obtains in Nazi Germany.

Those people who are concerned just now lest the civil population of Europe should be reduced to starvation as the result of the British blockade should bear in mind that Hitler is using only a part of the food supplies available to him to feed the peoples of the subject countries, and is using the remainder as raw material for his armaments industry. This, moreover, has been his practice over a period of several years.

The shortage of foodstuffs in Germany began to make itself felt as early as 1933, when the National Socialists came into power and began their preparations for a world war. For nearly eight years now the German housewife has been fighting a losing battle against malnutrition on behalf of her family. She has had to put up with meatless days, to go short of fats and to make do with skim-milk.

Ever since 1934 uniformed and armed Nazis have gone round inspecting the kitchens of private households in order to ensure that no more than the prescribed amount of food is being prepared. On "one-dish Sundays" restaurants might only serve one-course meals. The hungry customers were told for their consolation that 30% of what they paid for their scanty meal went to provide food for the poor.

The truth is that the German people have been kept short of food on such pretexts for years now. There were several reasons. The reduction of the meat and fat rations set a limit to expenditure on food and increased the capacity of the population to pay taxes which were used to pay for the manufacture of armaments. By refraining from importing such commodities as tea and coffee the Nazis were able to use their foreign currency for importing raw materials for the manufacture of armaments. Moreover, the actual foodstuffs which the population was made to do without were utilised as raw materials for armaments. So the various reasons for stinting the people all boiled down to one - preparing for war.

Let us look a little more closely at the technique of this modern witches' cauldron. First, let us take that homely article of food, the potato. Power alcohol, which is used for the internal combustion engine in place of petrol can be distilled from it. Ten tons of potatoes make about a ton of alcohol, which can be mixed with petrol in the proportion of at least 20:80. Thus the 300,000 tons of potatoes removed from Norway into Germany will enable 120,000 tons of petrol to be increased to 150,000.

Or, again, let us take milk. Butter is made out of milk, and an essential component of explosives such as glycerine out of the butter. Even skimmed milk is converted into plastics which are of great use in the manufacture of aircraft. Whale oil, which might be used for making margarine, supplies oil for U-boats.

The moment the Nazis occupy a country, strict rationing of foodstuffs is introduced. Even Denmark and Holland, countries in which agriculture flourishes, are suffering at the moment from a shortage of bread, potatoes and fats.

Foodstuffs are all the time exported to Germany from all the occupied countries on a gigantic scale. From Denmark 20 to 30,000 head of cattle are transported to Germany weekly; from Norway 200 tons of fish daily.

In many parts of Denmark and France the entire potato crop has been purchased for Germany and a potato is now for the Danes and the French a rare delicacy costing six times as much as it did in peace-time.

No. 101 — Thurs. Jan. 9, 1941 — Higher Education

The most significant index of the desire of Canadian people to obtain more and higher education is shown in the enrolment in part-time, extra-mural and extension courses. Not all of these courses result in university degrees but the registration of 42,604 adults in 1939, over 33,282 in 1938, in the extension departments of the institutions of higher education is a revelation of the increased value placed upon study and research by a nation of people endowed with freedom of thought and expression.

The biennial survey of education in Canada recently completed by the Dominion Bureau of Statistics provides some other exceedingly interesting information as to the number of students and universities or other colleges of learning they attend.

The two-year period 1938-39 and 1939-40, are of particular interest in their relationship to the entrance of Canada into the war.

Full-time undergraduate enrolment increased from 34,489 in 1938 to 34,916 in 1939; registration in graduate schools advanced from 1,738 to 1,813 in the same period.

Some significant trends are apparent in the distribution of students by faculties and schools and the influence of such enrolment should not be overlooked in a war-time social economy.

Registration in engineering and applied science, pure science, scientific agriculture, and forestry has increased in each case. Medicine shows but a nominal decrease — from 3,076 to 3,008 — which is more than balanced by the increase in public health nursing, from 461 to 600; and dentistry from 472 to 493. The maintenance of this enrolment to graduation is desirable and urgent.

Schools and faculties of education show a slight decrease in enrolment which is countered to a degree by a corresponding increase of scientific social service trainees.

No. 102 — Fri. Jan. 10, 1941 — The Sporting Thing

Like a chip off the old block, Canada goes in for sports in a very big way. In addition to possessing an inborn love for the out-of-doors Canadians have been blessed with a country unsurpassed for variety of climate and terrain. Mountains and seashore, prairie and bushland beckon the sportsman the year around.

Catering to the ever-growing needs of a playful public constitutes the work of one of the Dominion's leading industries. In 1939 there were 33 establishments

across Canada engaged in nothing but the manufacture of sporting goods, having a total production value of over two million dollars.

A glance at a detailed report of these firms would lead one to assume that there are more golfers in Canada than is generally believed to be the case. Evidently the fairways are coming to the "fore" in sporting attractions. Supplies and equipment for the tired business man's chief diversion were produced in 1939 to the value of over \$482,000.

Next in order of production value that year were tennis and badminton supplies. Tennis has come a long way since the days of its infancy. At one time only ladies indulged in the game, and they flitted about the courts in a supposedly graceful manner, their billowy skirts demanding most of their attention. To-day it is a fast, skillful game, requiring all the speed and dexterity it is possible to acquire through constant and gruelling practice. It has graduated from a petticoat pastime into an international sport of champions. Small wonder it is that sporting goods manufacturers devote so much time and attention to the needs of players and would be players. In 1939 the production value of equipment and supplies amounted to almost \$407,000.

In recent years winter sports have come into greater prominence in Canada than ever before. Young and old are leaving their habitual winter niches at the fireside to take an active part in winter games. Skiing especially is coming into its own. With the inauguration of ski troops in certain sections of the Canadian forces, the value as well as the enjoyment of the sport has been brought more forcibly to the attention of the general public. In 1939 the production of supplies for thousands of enthusiastic ski fans jumped almost 50 per cent over the previous year's output.

These figures, of course, do not reveal the varying degrees of popularity enjoyed by the different sports. The relative costs of supplies must be taken into consideration. For instance, although the production value of golf equipment tops that for any other sport, it is a well known fact that more people indulge in skating, skiing and even tennis than golfing. However, the production value is what counts most as far as the industry of sporting goods is concerned, and in 1939 manufacturers in Canada produced the requisite equipment, supplies and accessories to the extent of over two million dollars, in addition to which over three-quarters of a million dollars were imported.

No. 103 — Sat. Jan. 11, 1941 — Poland Under the Gestapo

The following harrowing story comes to us from the Polish Ministry of Information:

Life in Poland, in the second winter of occupation, is of increasing severity. There is little to eat. The only foodstuffs in shops are bread, potatoes, linseed oil for cooking. There is neither butter nor margarine. There is neither fruit nor fish. There is almost no meat. Yet in spite of all privations and persecutions, Polish resistance is growing. Mass executions by the Gestapo fail to terrorize.

In Kalisz, a Polish technician was imprisoned for publicly talking of damage by R.A.F. raids on Berlin.

In Lodz, a 17-year old boy was sentenced to ten years imprisonment on the charge of insulting a German official.

In Dortmund, a special tribunal sentenced a Pole to death who had left his work in Germany and resisted arrest.

In a village near Madgeburg, Germany, three German women were sentenced to 18 months imprisonment for giving food and cigarettes to Polish prisoners of war.

Several Polish priests have died in the Oranienburg concentration camp. Their bodies were cremated and the ashes sent to their families.

R.A.F. raids on German industrial centres have forced the Germans to transfer industrial factories to Poland. Germans attempting to build an ammunition factory in Skarzysk found the head engineer dead. The following day 300 Polish workmen were arrested and, according to advices received by the Polish Ministry of Information, were taken to a nearby forest, forced to dig their own graves and massacred by machine gun fire.

An uncensored letter received in London from Poland speaks of unlimited German cruelty to Poles. "Germans announce clearly," the letter continues, "that Poles were born to serve the German nation; to perform the hardest labor. The result of such behaviour is evident. Germans arriving in Poland from the Reich are unbelievably brutal. They ride in automobiles in disregard to pedestrians and cause a large number of accidents. In case of accident, the injured Pole is mistreated and subjected to severe reproach for wasting time. If the automobile is damaged or the driver injured in any way, the Pole is sent to prison. A new regulation in Krakow and Warsaw forbids Poles to enter parks."

No. 104 — Sun. Jan. 12, 1941 — Wood has Many Uses

Apart from their importance as a source of raw material for the lumber and pulp and paper industries, Canada's forests yield a widening range of products derived in whole or in part from wood in which this material is not apparent. According to the Forest Products Laboratories of the Department of Mines and Resources, the largest group of such articles is derived from wood pulp. The modern package of cigarettes is a striking example. In getting cigarettes from the factory to the consumer no less than seven different grades of wood pulp are used in the making of cartons, adhesive paper, packages, transparent wraps, tissues, excise stamps, and cigarette papers.

Rayon is a well-known derivative of wood pulp, but at one stage in their creation rayon stockings, ties or drapes might equally well have become movie film, artificial leather, cordite, or the glossy finish on an automobile.

Wood is an important, though rarely noticed, element in automobile batteries, and is also an ingredient of many floor coverings, explosives, and plastic products such as electric switch buttons, radio cabinets, and all sorts of novelties. It also provides a number of medicinal products and is likely to become an increasingly important contributor to man's diet through the production of sugar and possibly other substances. Already wood is a valuable source of vanilla flavouring.

No. 105 -- Mon. Jan. 13, 1941 -- Trapping

In an earlier number it was suggested that Seneca picking might be made a part-time summer job, now we are recommending trapping and shooting as a means of earning some extra spending money. Almost every animal has some price on its head, and with industry, determination and patience even the lowly jack rabbit can be turned into ready cash.

As there are lessons to be learned in every trade, the most important part of trapping is to be thoroughly acquainted with the haunts and habits of each particular animal. Weasels, which are the easiest to trap and which form the bulk of most amateur catches, seldom travel very far, especially if there is plenty of food in the vicinity. It is not necessary to conceal the trap, or to erase the traces of your visit. Patience is all that is required. If he is not caught the first night he probably will be the next. Average weasel skins bring between 50 and 75 cents. Alberta leads the Dominion in the number of pelts marketed annually.

However, the simple technique that catches the ermine coated weasel is useless when it comes to bagging the coyote. It requires great care and skill to inveigle this crafty prairie dog into a trap, but when you do you've accomplished something worthwhile. The trap itself must be carefully concealed and all human odor entirely destroyed if you are to be successful. In the end it's worth all your trouble for a good coyote hide well skinned and stretched nets around six dollars. It is interesting to note that coyotes are found mainly on the prairies, being comparative novelties in eastern Canada.

Skunks, while they are easy to catch, not even requiring bait, are difficult to skin. Care is essential not only to insure a good hide, but also to protect yourself. Experience has taught us that if the scent sac is punctured the most miserable fit of nausea will overtake the enthusiastic trapper. Usually skunks can be handled most effectively under water. Hides of these little black and white "pussies" bring around one dollar. In 1939 Ontario marketed more skunk pelts than any other province in Canada.

Across the vast expanse of Canadian prairie, bushland and mountain over 25 different species of animals are to be found in the wild state, making this country a veritable hunters' paradise. However, to insure the perpetuity of Canada's great wild life heritage, conservation rules have been laid down. There are closed seasons when certain animals are not allowed to be taken, and any violation of this law brings a heavy fine. Nevertheless, trapping, can still be a profitable business, provided it is kept within the bounds of the game regulations. The story has recently come to us of an enterprising young Alberta trapper who is paying his own way through university with the proceeds he derives from trapping.

In the 1938-39 season nearly six and one half million pelts were marketed in Canada, bringing a value of over \$14,000,000.

No. 106 -- Tues. Jan. 14, 1941 -- Soybean

There has been a slow but continuous increase in soybean production in Canada during the past decade. This increase may be explained, in part, by the

development of new and improved early maturing varieties which have resulted in an extension of the area over which this crop may be grown successfully. However, the chief reason for the increased production of soybeans can be attributed to a realization, on the part of stockmen, that soybean protein can be used satisfactorily to balance the coarse grains -- oats, barley and corn -- which constitute the bases of rations used for growing and fattening live stock and for the production of eggs and milk.

In addition to being a valuable feed for stock the soybean has found an important place in industry. The ripe seed is processed to extract the oil, for which a great many uses have been found. The soybean oil meal, or that part of the bean which remains after the oil has been extracted likewise has many uses.

Soybean oil is utilized in the manufacture of soap. It is also finding an increasing use in the preparation of paints and varnishes. It is a rich source of lecithin, which enters into the making of ice cream, candy, cosmetics and other articles. It finds its way into the household kitchen in the form of salad oil, prepared mayonnaise, shortening and margarine. It may be present as a constituent of the linoleum which covers the floor.

The great bulk of soybean oil meal is used as a source of protein for livestock feeds. A considerable quantity is used in the production of soybean glue which is important in the plywood industry. Many plastic compounds incorporate soybean protein and only recently upholstery has been woven from fibre made exclusively from soybean protein. Flour may be made either from soybean meal or from the beans themselves and may be high or low in fat content according to the production process. An important characteristic of soybean flour is its near freedom from starch which makes it valuable in certain diets. Soybean milk is likewise made from either the oil meal or the whole beans. Its special properties have made it valuable as a diet in certain cases of infant feeding.

No figures of area or production of soybeans are available in Canada at present, but as has been stated, a slow but continuous increase in production is taking place. Our imports in 1939 were very large, running to over 560,000 gallons of oil, 466,000 cwt. of meal and flour and 9,250,000 pounds of beans.

No. 107 -- Wed. Jan. 15, 1941 -- Fruit Growing in Canada

The first records of attempts to establish cultivated fruit in Canada are to be found in the Census of 1698 when 1,584 trees were reported at Port Royal and 32 at Beaubassin in the region then known as Acadia. From this small beginning, the industry has developed until now fruit is being grown in all provinces although production is on a commercial scale only in Nova Scotia, New Brunswick, Quebec, Ontario, and British Columbia. The most extensive fruit-growing areas are the Annapolis Valley in Nova Scotia, southwestern Ontario, and the Okanagan Valley in British Columbia, while less well-known, but increasingly important districts are the Saint John Valley in New Brunswick and the Montreal and southern counties district in Quebec. The development of improved varieties with hardy characteristics has made fruit growing possible in the Prairie Provinces but production is confined chiefly to the backyard gardens. The value of the commercial fruit crops in 1939 was \$17,165,000, made up as follows: apples, \$10,138,100; pears, \$675,500; plums and prunes, \$288,000; peaches, \$1,143,000; cherries, \$581,000; apricots, \$150,000; strawberries, \$2,120,000; raspberries, \$1,078,000; loganberries, \$84,000 and grapes, \$909,000.

With the outbreak of the war, exports of Canadian apples to continental Europe were completely cut off and shipments to the United Kingdom were restricted to approximately 50 p.c. of the average exports for the previous two years. For the year ended March, 1940, exports to the United Kingdom were 1,189,756 barrels. Exports for 1940 amounted to only 23 p.c. of the 1939 crop.

Various steps were taken to stabilize the domestic market and among them were the canning and drying of 1,333,000 barrels of No. 1 and domestic Nova Scotia apples and the zoning of the Dominion to assure the fair distribution of the fresh fruit. In addition an extensive advertising program to sell apples and apple products was instituted by the Government.

Each of the nine provinces has its Department of Agriculture, through which is carried on educational and extension work to assist farmers. Agricultural colleges maintained by the provinces are: the Nova Scotia Agricultural College at Truro, the Ontario Agricultural and the Ontario Veterinary Colleges at Guelph, and the Manitoba Agricultural College at Winnipeg. Three agricultural colleges in Quebec are assisted by the Provincial Governments, while faculties of agriculture are found in the provincial universities of Saskatchewan, Alberta and British Columbia.

No. 108 -- Thurs. Jan. 16, 1941 -- Water Powers

Like every other activity of a fundamental character, the water powers of Canada assume an added importance when we are at war. Production is all-important.

Canada's water powers constitute one of her greatest natural resources. Their development has not only facilitated the growth of industry but has resulted in giving value to marginal products, which, without the low-cost power provided by water, would have remained unmarketable. This low-cost power has also resulted in the creation of entirely new centres of population for the processing of raw materials imported from abroad. So general and widespread is its availability that all but the most isolated hamlets enjoy the amenities of electric lighting, radio, cooking and domestic appliances which in many countries are associated only with the larger urban centres.

Canada's water powers have an estimated capacity of almost 34,000,000 h.p. which, under average conditions of use, will provide for a turbine installation of about 43,700,000 h.p. of which the installation, as at Jan. 1, 1941, represents approximately 19 $\frac{2}{3}$ p.c. These water powers, developed and undeveloped, are found from the Maritimes to British Columbia in proximity to all industrial centres, the largest mineral deposits and pulpwood supplies. Widespread transmission networks distribute the power from developed sites to consumers within radii of hundreds of miles.

The water powers of the Maritime Provinces, while small in comparison with the sites in the other provinces, are a valuable economic resource that is augmented by abundant local coal supplies. Quebec has the largest known resources of water power and the greatest development, her present installation is a little more than 50 p.c. of Canada's total. More than 90 p.c. of total installation is operated by central electric station organizations. Ontario, which, like Quebec, is without local coal supplies, is second in both power

resources and development. Here the Hydro-Electric Commission operates plants aggregating more than 67 p.c. of the total installation of the Province, while an additional 18 p.c. is operated by other central station organizations. Of the Prairie Provinces, Manitoba has the greatest power resources and the greatest development, more than 72 p.c. of the total hydraulic development of the provinces being installed on the Winnipeg River to serve the Winnipeg area and over the transmission network of the Manitoba Power Commission, approximately 135 cities, towns, and villages in southern Manitoba. In the section of the Prairie Provinces containing least water power, there are large fuel resources. British Columbia ranks fourth in available power resources and her hydraulic development is exceeded in Quebec and Ontario only. The water powers of Yukon and the Northwest Territories are considerable, but present development is limited to mining uses.

New water-power installations during 1940 aggregated approximately 295,000 h.p. bringing Canada's total installation as of January 1, 1941, to 8,584,438 h.p.

In British Columbia the West Kootenay Power and Light Company completed the installation of two units of 25,000 h.p. each in its Upper Bonnington Falls Station, giving the plant a total capacity of 84,000 h.p. and the Nanaimo-Duncan Utilities Ltd. added a second unit, 750 h.p., to its Millstone River station.

Over 88.4 p.c. of all water power developed in Canada is developed by central electric stations and, although there are a large number of stations (300) that derive their power entirely from fuels and 40 hydraulic stations that also have thermal auxiliary equipment, 98 p.c. of all electricity generated for sale is produced by water power.

No. 109 -- Fri. Jan. 17, 1941 -- Statistics of the Wheat Crop

The 1940 wheat crop in the Prairie Provinces is another exceptionally high grading crop, following the record set by the crop of the previous year. This year's grades are just a shade under those of 1939. Over 57 per cent of the wheat graded in the August-December period of 1940 has been designated No. 1 Northern or No. 1 Hard. During the same period of 1939, 60 per cent of the inspections made the two top grades. The 1940 inspections have included 27 per cent grading No. 2 Northern and over seven per cent grading No. 3 Northern, so that the total volume of the 1940 crop grading No. 3 Northern or higher amounted to 91.6 per cent, as compared with 91.9 per cent in 1939. The mean protein content of the 1940 crop, as reported by the Grain Research Laboratory of the Board of Grain Commissioners for Canada on November 12, was 14.1 per cent, which was identical with that of the 1939 crop, and comparable to the average protein content of the past twelve crops. The similarity between the 1939 and the 1940 crops is striking, with respect to both grade and protein content.

The dearth of wheat below milling quality delivered from both the 1939 and 1940 crops has made very little wheat of the feed grades available to the live-stock industry. As in 1939, an appreciable quantity of tough wheat due to wet harvesting conditions has been delivered in Alberta, with 5.3 per cent of the total western inspections grading tough in 1940, compared with 4.8 per cent in 1939. Much of the wheat in the tough category would grade No. 2 Northern except for moisture content, and is priced above the feed range.

The 1940 Amber Durum wheat crop is grading similar to that of 1939. The 1940 inspections during August-December show 70.6 per cent in the two top grades,

compared with 70.5 per cent in these grades in the same period of 1939. Twenty-four per cent of the inspections in 1940 graded No. 3 Amber Durum, as compared with 20.4 per cent in the No. 3 grade in 1939. The small percentage of Durums entering the tough and rejected grades in 1939 was reduced to negligible proportions in 1940.

No. 110 - Sat. Jan. 18, 1941 -- Textile Industries at War

The need for clothing and equipment for Canada's suddenly and greatly enlarged armed forces has thrown a heavy burden upon the textile industries. In general, production facilities have shown themselves capable of co-operating efficiently in the War effort, and many concerns are devoting their entire production to requirements of this kind.

The textile industries are, to a high degree, centralized in the Provinces of Quebec and Ontario. In 1938 the gross value of production was \$346,215,000, employment was given to 115,745 persons, and \$99,275,000 was paid out in salaries and wages. It is also worthy of note that of all females employed in the manufacturing industries, 42 p.c. were to be found in the industries making up the textile group.

The variety of individual industries contained within the textile group is representative of practically all of the stages of manufacturing necessary to convert the various raw materials into products ready for purchase by the public. Yarn is spun, and fabrics and goods are woven and knitted.

Factory production of clothing is on such a considerable scale that in 1938 the men's factory clothing industry led the group with a gross value of production amounting to \$64,303,000, and was followed closely by the women's factory clothing industry. Some other leading industries, in the order named, were: cotton yarn and cloth; hosiery and knitted goods; silk and artificial silk; and woollen cloth.

The remarkable expansion of the silk and artificial silk industry during a comparatively short period of time, and which was continuous throughout the depression years, makes this an important member of the group, with a production valued at \$23,872,000.

No. 111 -- Sun. Jan. 19, 1941 -- A Programme for Each Farmer

Nowadays, to prevent producing at a loss and, if possible, make a reasonable profit, a farmer must be on the alert and keep well posted in all that pertains to agriculture, and especially to his particular district. Keen competition between agricultural regions and even between countries, the present war, and surpluses of certain crops all tend to reduce the margin of profit in the production of farm products. Thus the necessity for a program for each farmer is made apparent, and at the present time during the winter months when he is not rushed with farm work, the farmer is afforded the best opportunity in the year for making a comprehensive and detailed review or check-up of his operations during the past year.

There are many questions a farmer can ask himself; is my present crop system well adapted to the type of soil on my farm; is the rotation I follow the right one; do I fertilize my crops in a complete and economical way; are the yields

satisfactory and are they obtained economically; do I still produce crops which used to pay in the past and now entail annual losses on account of uncontrollable circumstances; why cannot I sell my products - is it because of faulty grading or the unattractive manner in which they are offered to the buyer; do I follow the market requirements in this regard; does my herd still contain boarders which do not pay their way on account of their low production; are there certain new crops which I could grow with good results to the soil, with labour and agricultural machines available? These and other questions may be pondered over.

When these questions have been thought out, the point arises as to where the necessary information or advice towards improvement is to be obtained. There are many such sources of information. There are the Dominion Experimental Farms and Stations, the Dominion Illustration Stations, the Colleges of Agriculture, the Middle Schools of Agriculture, and the District Representatives. They are spread all over Canada and are in direct touch with the farmer, and the statistics are all carefully compiled in the Dominion Bureau of Statistics.

Further, the farmer has at his disposal numerous Dominion and Provincial publications expressly written by agricultural experts. These publications are given free of charge upon request and may be obtained from the Provincial Departments of Agriculture or the Dominion Department of Agriculture. In case of doubt as to the exact publication desired, the farmer can write for the list of publications and at his leisure mark the publications he needs from time to time.

There are also the Co-operatives and various other Associations which are intimately concerned in farm problems and may be consulted by the farmer in his preparation of a programme which will give better and safer results, if not perfection.

No. 112 — Mon. Jan. 20, 1941 — Farm Implements

The name of agricultural implements manufactured in Canada is legion. There are many kinds of ploughs, including horse and tractor mould board, single furrow and two or more furrow walking, single furrow sulky, two furrow or larger gang, horse and tractor-drawn discs of all types, breakers and others. Other tillage implements made in Canada are corn and other cultivators, spike-tooth, spring-tooth, and disc harrows, harrow parts and attachments, horse-drawn hoes, land rollers, packers, and soil pulverisers, one-way discs, harrow ploughs, tiller combines, scufflers, and weeders.

Of planting and harvesting machines, there are fertilizer sowers, press and wheel seed drills, corn planters, grain binders horse and tractor drawn, corn and cotton binders, threshers and reaper-thresher combines, thresher parts, pickups, harvester stackers, swathers, and push harvesters, while for haying the implements are abundant. These include hay loaders, dump, side, combination side rakes and tedders, horse and tractor-drawn mowers, hay carriers, hay forks, hay tedders and pressers.

However, that is only part of the story, for there are fanning mills and grain cleaners, grain grinders, hammer mills, barn and stable equipment, corn shellers cream separators, ensilage and straw and stalk cutters, eveners, manure spreaders, potato diggers, pulpers and slicers, sleighs, hand and power sprays, wagons, wagon boxes, gears, wheelbarrows and many other implements used on the farm.

Plants in Canada engaged in the manufacture of farm implements and machinery made these products to the value of \$16,035,000 in 1939. In addition over \$20,917,000 worth were imported, while our exports to other countries were valued at \$7,028,000.

No. 113 - Tues. Jan. 21, 1941 --- Farm Manure

Farmyard manure is the oldest and best known method of fertilizing land, the chief trouble being that rarely can the farmer get enough of it.

Experiments conducted over a period of sixteen years at the Quebec Experimental Station of the Dominion Government, give interesting comparisons of the value of manure and commercial fertilizers. In a four-year rotation of potatoes, oats, clover, and timothy, sixteen tons of manure, ten tons of manure supplemented by 450 pounds of fertilizer and 1,800 pounds of fertilizer gave practically the same yields on the average of sixteen years. The manure plots produced a few more oversize potatoes than those with the manure plus the fertilizer or the ones with fertilizer alone. Thus 16 tons of manure would be about equal in value to 1,800 pounds of fertilizer.

In order to maintain the fertility of farm land, it is generally considered advisable to make an application of manure equal to four tons per acre per year. This is not applied every year, but usually once or twice during a rotation, depending on the crop grown. In a four year rotation, starting with a hoed crop, the 16 tons of manure is spread before the crop. In a grain and hay rotation, this amount of manure before the grain crop would cause it to lodge. The best practice is to use eight tons before the grain and use the other eight tons as a top dressing on the hay land. Where there is not sufficient manure, it may be supplemented to good advantage by chemical fertilizer.

In the wartime series of bulletins issued by the Agricultural Supplies Board, No. 27 deals exclusively with farmyard manure, and No. 25 with fertilizers for various crops. Other bulletins deal with the fertilizing of specific crops. These bulletins may be obtained free.

No. 114 - Wed. Jan. 22, 1941 --- Commercial Intelligence Service

The Commercial Intelligence Service, maintained by the Department of Trade and Commerce, is designed to further the interests of Canadian trade in other parts of the Empire and in foreign countries. To this end there are established throughout the world offices administered by Trade Commissioners. These Trade Commissioners make periodical reports upon trade and financial conditions, variations in markets, and the current demand or opportunities for Canadian products. They also secure and forward to the Department at Ottawa inquiries for Canadian goods and, in general, promote the development of overseas markets.

The headquarters staff at Ottawa is presided over by a Director, who administers the work assigned to the various Trade Commissioners and is assisted by the following divisions: Directories--Exporters Directory, listing Canadian exporters, with their agents abroad, commodities handled, etc., and Foreign Importers Directory; Editorial; Commodity Records--where information regarding markets for Canadian export commodities is indexed; Economics; Animal and Fish

Products; Vegetable Products; Metals and Chemical Products; Forest Products; and Miscellaneous Manufactures.

There are twenty-nine Canadian Trade Commissioners or commercial diplomatic officers conveniently located abroad. In some countries or territories, such as the United Kingdom, Australia, British West Indies, South Africa, and the United States, there is more than one commercial officer; in other cases an officer covers adjacent countries. Besides the five mentioned above, countries in which officers are located are as follows: Argentina, Brazil, British Malaya, China, Cuba, Egypt, Hong Kong, India and Ceylon, Ireland (Eire) and Northern Ireland, Mexico, New Zealand, Panama, and Peru.

Under an arrangement made by the Minister of Trade and Commerce with the British Foreign Office, Canadians interested in trade matters may secure information and advice from British commercial diplomatic officers and British consuls in all countries in which Canada is not represented by her own Commercial Intelligence Service.

The Commercial Intelligence Journal, containing the reports of the Trade Commissioners and other pertinent material relating to export trade, is published weekly by the Department of Trade and Commerce in both English and French editions. Special reports dealing with various phases of Canada's export trade are also issued from time to time, as supplements to the Commercial Intelligence Journal.

No. 115 -- Thurs. Jan. 23, 1941 -- Air Travel

The aeroplane has provided a vastly improved means of transportation in the undeveloped northern areas of Canada where the only alternatives were canoe in summer and dog team in winter. Air travel soon proved not only much quicker, but much cheaper, and a rapid expansion took place without the aid of government subsidy. The mileage flown by aircraft increased from 185,000 in 1922 to 10,969,271 in 1939, when 161,503 passengers, 21,253,364 lb. of freight, and 1,900,347 lb. of mail were carried.

Furthermore, the aeroplane has proved a great boon to Canada in the administrative field for the development and conservation of her vast natural resources. Aerial forest-fire patrols are now carried on over large parts of almost every province; fishery patrols by aeroplane protect territorial waters and enforce fishing regulations; and by the use of aeroplanes equipped with special cameras, preliminary surveys, which would have taken years by the older methods, are now made quickly over large tracts of difficult country. This development in Canada has differed from that in other countries where air traffic between the chief centres of population has received most attention. The Trans-Canada Airway is designed to facilitate progress along this line.

The Trans-Canada Airway is now in operation all the way across the continent from Vancouver to Toronto, Montreal, and Moncton, and from Toronto to London and Windsor. Intermediate aerodromes lighted for night flying are established at approximately 100-mile intervals. Meteorological services provide weather maps four times daily, and district forecasts for the ensuing six hours. As part of the facilities of the Trans-Canada route and its feeders, there are now in operation 40 radio range stations at approximately 100-mile intervals, except in the mountain regions where closer spacing is necessary.

Work on the eastern section has been completed, and mail and passenger air services are now operating twice daily, except Sunday, by Canadian Airways Limited, from Moncton to Charlottetown, Halifax, and Saint John, connecting with T.C.A. at Moncton. This company also operates a daily service as an extension of the Trans-Canada Airway System from Vancouver to Victoria, British Columbia. A daily service is also operated by Prairie Airways from Regina to Moose Jaw, Saskatoon, Prince Albert, North Battleford and return, connecting with the through service of T.C.A. at Regina.

No. 116 -- Fri. Jan. 24, 1941 -- National Radio

In this day and age, we are all radio conscious, and we await eagerly the news broadcasting hours to learn what progress we are making with war and how the boys overseas are getting along.

During the past four years the coverage of the CBC has been greatly increased. At its inception the Corporation served less than 50 p.c. of the population; it now serves over 84 p.c. This has been made possible mainly by the inauguration of four 50,000-watt transmitting stations: CBL at Hornby, Ontario, serving the Province of Ontario; CBF at Verchères, Quebec, for the Province of Quebec; CBA at Sackville, New Brunswick, for the Maritime Provinces; and CBK at Watrous, Saskatchewan, for the Prairie Provinces. A 5,000-watt transmitter, CBR, at Vancouver, serves the Pacific Coast, and there are five other CBC transmitters at various points. The progress of the Corporation has been directed towards completion of the plan envisaged in the report of the Royal Commission on Radio Broadcasting appointed in 1928 to investigate the whole problem of broadcasting in Canada. Reception and programme service have also been greatly improved.

The technical facilities of the CBC were further extended by the addition to its equipment of a completed armoured Mobile Unit capable of operating under war conditions on any front. This unit has been sent to England, while two other Mobile Units, which include short-wave sending and receiving apparatus, recording machines, and pack sets, are used in Canada. The pack sets can be carried by commentators to ordinarily inaccessible territory. A staff of three commentators and two engineers was established in England by the CBC during 1940.

Transmission facilities enabling CBC programmes to be broadcast over a national network in all five Canadian time zones for sixteen hours a day are maintained. This nation-wide network carries both sustaining programmes of the Corporation and a limited number of commercial features. In addition to the ten stations owned and operated by the CBC, the national network includes a large number of privately owned transmitters throughout Canada.

During the first year of the War the CBC National Network carried more than 1,600 special war broadcasts, exclusive of news bulletins and summaries, the number of which was also increased.

No. 117 -- Sat. Jan. 25, 1941 -- The Parachutists

In these swiftly moving days it is almost impossible to pick up your newspaper without running across some comments praising the latest achievements of those gallant fighters -- the men with wings. The untold dangers they face daily

as a matter of course are beyond the limited bounds of our comprehension.

At one time or another during the course of their dangerous careers, most of these heroes have had some rather harrowing experiences, in which their very lives were hanging in the balance. One such experience, breath-taking to onlookers, but which the pilots themselves take quite matter of factly is "bailing out". In those frightful moments of sailing through space they trust their all to a few silken threads and we wonder at their nonchalance. However, their faith is well placed for the parachutes of to-day have been developed to the point where there is practically no danger of failure. Had this been the case in the last war, scores of men could have been spared when their planes were shot down out of control.

New and greater importance is being attached to the manufacture of parachutes to-day. In Canada the new Empire air training scheme has brought this industry to the fore in rapid strides. At the present time the demand is met by companies located in eastern Canada.

To the ordinary layman a parachute is just yards and yards of cloth sewn together to look like a huge umbrella. However, a dozen or more operations are necessary before a parachute is finally completed. First of all each 'chute consists of six principal parts: canopy, shroud lines, container, harness, rip cord and pilot chute. The process briefly is as follows:

The canopy is made of silk having a tensile strength of forty pounds per inch of width. It is formed by joining gores cut in four different sizes into a panel, and it takes twenty-four such panels to make a complete canopy. These are thoroughly inspected for the slightest imperfection.

The shroud lines are formed by an unbroken 680 foot skein of silk cord doubled to make the twenty-four lines in a twenty-four foot parachute. These lines are also tested for flaws and subjected to a tension of 450 pounds. The shroud lines are sewn securely to the canopy and a final inspection is made before the assembly of the parachute.

The containers are made from heavy brown canvas, reinforced with wire frames. Flaps, pockets, hooks and fasteners are attached by special machines.

The harness consists of a number of linen webbing straps, sewn together with linen thread. To the harness are attached the shroud lines, and here the webbing is tested to 4,500 pounds.

The pilot chute is attached to the apex of the canopy, and helps to pull the chute away from the wearer when the rip cord is pulled. The rip cord comprises a steel ring about five inches in width, and a jerk which a child can exert is all that is necessary to open the chute.

The final operation is packing the parachute, and this requires special training and infinite care. It takes about half an hour to fold one chute.

Formerly the silk used in parachute fabrication was imported. Now, however, orders are being placed with Canadian firms. Experiments are being conducted with nylon fabrics, which may perhaps eventually replace the silk in the canopy. A new type of cotton yarn with bonded fibres has been developed and is being used successfully in parachute harness. It is understood this development will free the National Defence programme from its dependence on flax.

Parachutes are now being produced by Canadian plants and with the exception of housings and a few small fittings, all materials for the manufacture are made right here in Canada.

No. 118 -- Sun. Jan. 26, 1941 - Tourists and Sportsmen

Almost 9,000 sportsmen from the United States brought firearms into Canada during the 1940 hunting season, under permits issued by the Commissioner of the Royal Canadian Mounted Police. Although Canada is at war, bona fide tourists and visitors from Allied or neutral countries may still obtain permits enabling them to import firearms for hunting or for gun club use and for trap shooting.

Canada's game resources are one of the primary attractions which bring thousands of tourists and sportsmen into the country annually. Although the advance of civilization has almost always had the effect of driving the game back and restricting its range, Canada still possesses a vast hinterland which affords unspoiled natural habitat for many forms of native wild life. Land and water highways, railways, and airplane services have brought the former backwoods regions within easy reach of the great centres of population, but the appeal of the forests, lakes and open spaces is as powerful as ever, and they are now accessible without hardship or delay.

To guard against depletion of Canada's supply of wild life, the Dominion and provincial governments have adopted reasonable measures of conservation. Game laws regulate the hunting of animals by limiting the catch and providing closed seasons. Game preserves and national and provincial parks, in which no hunting is permitted, serve as reservoirs, the overflow from which restock surrounding areas. Canada welcomes hunting guests from other lands who comply with the regulations and observe the ethics of sportsmanship.

No. 119 -- Mon. Jan. 27, 1941 -- Germany's Strength in the Air

The following estimate of Germany's strength in the air is based on material from the British Ministry of Information.

Germany's strength in the air is estimated at an absolute total of 40,000 machines of which fewer than 18,000 are combat types. The number available for full operation at any given time is about 9,000. According to authoritative estimates, it is unlikely that Germany would be able to assemble 6,000 aeroplanes for her opening assault on Britain.

Estimates which place German airstrength as high as 70,000 or 80,000 "fighting types" are dismissed as nonsensical.

The air correspondent of the London Sunday Times, in an analysis of German air strength, points out that Germany has seven regular air fleets. To these must be added the naval air services operating separately and an operational training division which together constitute total "first line" strength of the Luftwaffe.

These formations have a first line strength (including first line reserves) of 24,000 with an operational strength of 12,000 available at any moment.

Behind, lie reserve pool and unfinished machines amounting to approximately 50 per cent as well as some 5,000 trainers and communication aircraft. This brings the grand total of all German aircraft to about 40,000.

The estimate is incomplete, however, without mention of production losses. Records show R.A.F. have scored nearly 6,000 confirmed victories over German aeroplanes in all engagements since the war began. Experience suggests as a reasonable estimate that for every machine lost in combat two were put out of service by accidents and unrecorded victories. This does not include training losses usually estimated at 15 per cent per month.

Thus total losses of the Luftwaffe since war began counting Polish, Norwegian, Dutch, Belgian, French and British campaigns are not far short of 24,000 machines.

When war opened, German production of first line types was about 1,000 a month. It is now estimated at about 1,600 per month (total about 2,300 all types). An average of 1,400 first line machines per month is probably not far wrong.

Thus, to replace losses of 24,000, Germany has built about the same number of aircraft and Luftwaffe cannot be said to have expanded during the war.

The Royal Air Force, on the other hand, has more machines than when war began.

No. 120 — Tues. Jan. 28, 1941 — Moisture Content in Wood

The exigencies of war have emphasized the wide variety of uses to which wood can be put quickly and at a relatively low cost. Its use in the domestic and United Kingdom markets for the construction of aerodromes, military camps, aeroplanes, boats, munitions' containers and many other purposes has focused attention on the tremendous asset which Canada enjoys in its wide variety of softwoods and hardwoods. This wide variety permits the selection of wood which can be put readily to the most exacting requirements. Intelligent use must be made of wood in order that it may give complete satisfaction. It is most important that it be seasoned to a moisture content suitable for each type of use.

To aid wood-using industries in Canada engaged in war production, the Department of Mines and Resources has prepared a chart showing the equilibrium moisture content of wood over a wide range of temperatures and humidities. The demands made upon these industries during the war period have in many cases called for fine wooden parts within definite moisture content limits. This moisture content is often above that of wood stored or fabricated in a heated building without humidity control during the winter months. The small wooden parts are quick to react to atmospheric changes, and the resultant shrinkage from excessive drying during storage or manufacture may cause difficulty in fabrication.

By means of the moisture content chart and some form of air-conditioning equipment, it is possible to maintain the proper relative humidity at any prevailing indoor temperature and thus keep the wood at the moisture content desired.

No. 121 -- Wed. Jan. 29, 1941 - Soft Drinks

The mention of soft drinks brings to mind hot summer days, and warm balmy evenings when an iced drink is the accepted companion for every occasion. However, statistics reveal that both winter and summer, thirsty Canadians manage to keep over 450 beverage manufacturing plants busy supplying them with their favorite brands of "pop" and other cold drinks.

Soft drinks are technically referred to as "aerated" or "carbonated" beverages. They are composed of over 80 per cent water, flavouring and carbon dioxide gas. The peculiarly pungent and acidic taste, the sparkle and effervescence that accompany the opening of a bottle of champagne, soda water or any of the aerated beverages is due to the carbon dioxide that was previously held in solution under pressure. These drinks have practically no body-building properties, but children frequently prefer them to ice cream.

The growth of the modern soft drink industry has been most rapid, although it covers a comparatively short span. While entirely a product of the twentieth century, the present size and general importance of the industry is surprising. The factory output in Canada in 1938 amounted to over \$26 million. If you were to translate that figure into individual drinks it would number far into the billions, enough to stagger the imagination. Imports into Canada of mineral and aerated waters were valued at something over \$62,000 for 1938, while exports for the same period totalled \$6,000.

No. 122 -- Thurs. Jan. 30, 1941 - Cost of Living

The increase in salaries which has been granted the lower grades in the Civil Service brings forward the question of the cost of living. Some idea of costs may be gathered from the index prepared by the Dominion Bureau of Statistics. A summary of the report for 1940 will be read with special interest but it should be remembered that the index covers the whole of Canada. Costs of certain items vary in different localities. The Bureau's report reads:

The cost of living index for Canada advanced from 103.8 for December 1939 to 108.0 for December 1940. This increase of 4 per cent was mainly concentrated in the latter half of the year when prices for clothing, home furnishings, foods, and coal showed appreciable advances.

The December 1940 living cost index was 7.1 per cent above the corresponding index for August 1939, and materially above the minor peak of 102.9 recorded in November 1937. However, it remained far below levels of 1929 and 1930 when annual average cost of living indexes were 121.7 and 120.8 respectively. Living costs in these years were representative of the period from 1922 to 1930.

A Dominion index of retail food prices advanced 4.2 per cent during 1940. This movement occurred between June and December, following a slight decline in the first half of the year. The December 1940 food price index of 109.1 compared with earlier indexes of 103.8 in June and 104.7 in December 1939. Butter, eggs, and meats were mainly responsible for the rise in the food group. The autumn seasonal increase in egg prices was slightly greater than in 1939, and December 1940 butter prices were about 8 per cent above corresponding 1939 levels. Late summer advances in the retail price index for meats were partially cancelled by

declines in the final three months, leaving the December 1940 index for meats only 3.9 per cent above the corresponding December 1939 index. One of the few important foods to record a net decline for 1940 was potatoes. A December 1940 index for potatoes was 10.9 per cent lower than the December 1939 figure.

Higher prices for coal and coke carried the Dominion index for fuel and lighting up from 105.4 in December 1939 to 108.5 in December 1940. This group index was one of the few which was not substantially lower in 1940 than in 1929 and 1930.

A Dominion index for rents of wage-earner family dwellings increased moderately from 104.4 at the end of 1939 to 107.7 at the end of 1940. Control of rentals in areas most affected by the war effort minimized variations in regional movements.

Clothing price increases in 1940 were sharper than those in any other principal budget group, and the December 1940 index of 113.5 for clothing was 9.9 per cent above the corresponding index for December 1939. Men's clothing was more affected than other groups due to the greater importance of wool in its manufacture. The advance in footwear prices was less than 5 per cent.

The broad group of home furnishings and services, including furniture, hardware, bedding, floor coverings, etc., advanced 6.3 per cent during 1940 which was a greater than average rise. Bedding and floor coverings recorded the sharpest increases in this group, but advances in other sections were fairly general.

Miscellaneous living needs showed less change on the average, than other groups commented on above. The increase of less than one per cent in the miscellaneous index during 1940 was influenced by higher costs for tobacco.

No. 123 -- Fri. Jan. 31, 1941 -- Bakery Products

While the way to a man's heart may still follow the traditional route, the modern young miss relies a great deal upon the titbits turned out by the neighborhood bakery to produce the desired results.

Baking is probably the oldest industry in which man has engaged. Evidences have been discovered that lead us to believe the custom dates as far back as the Stone Age. Furthermore, the oldest form of baking appears to be bread, much as we know it today, the Egyptians having perfected that art over 1,500 years before the beginning of the Christian era.

With the development of towns and cities the baking of bread has gradually passed from the home to the family baker. Modern bakery shops equipped with intricate and costly machinery have attained the dignity of factories and transformed the simple art of baking into a leading industry, which in 1939 furnished employment for over 23,000 persons.

With the shops baking on such a large scale, it is no longer necessary for the housewife to spend long hours in the kitchen in an effort to satisfy the demanding appetites of a hungry family. It is so much easier, for the

city housewife anyway, to have her breads and pastries, rolls and cakes delivered to her door in attractive and sanitary wrappers.

In 1939 there were over 3,000 establishments in Canada producing bread and other bakery products. The consumption of bread amounted to \$51,666,000, pies, cakes, cookies and pastries \$19,383,000, and buns \$4,277,000. It is interesting to note that almost four million barrels of flour were used in the making.

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TRADE AND COMMERCE

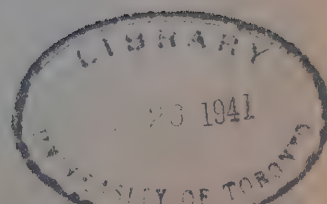


A FACT A DAY ABOUT CANADA
FROM THE
DOMINION BUREAU OF STATISTICS
FEBRUARY 1941
SEVENTH SERIES

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James Muir,

Editor.

from the

Dominion Bureau of Statistics

No. 124 -- Sat. Feb. 1, 1941 -- Tea

Over 1500 years ago a Chinese poet wrote:

"Tea tempers the spirits, harmonises the mind, dispels lassitude and relieves fatigue, awakens thought and dispels drowsiness, lightens and refreshes the body and clears the perceptive faculties."

Today, tea is so much a part of our daily life that we accept it quite matter-of-factly knowing little of its romantic and colourful history. Contrary to popular opinion, the tea plant did not originate in China. Rather, it is said to have been imported there from India as far back as the time of Confucius. At that time it was used only for medicinal purposes, and it was not until after the 6th century A.D. that it came into use as a beverage. There is a legend among the Chinese, concerning the discovery of tea, that is worth repeating.

It seems that a Hindu Prince visited China about the beginning of the 6th century, with the primary purpose of converting the Chinese to the Buddhist faith. He was an extremely pious fellow and led a life of penance and self-denial. Among other things, he forced himself to go without sleep. One day, however, nature proved too strong, and his tired eyes closed during one of his long vigils. Upon awakening he was so overcome with shame and remorse he resolved never again to yield to the weakness of the flesh. As evidence of his deep humiliation he cut off his eyelashes and threw them away. The next day the missionary happened to pass by the same place. And lo, a new plant had appeared in exactly the same spot where his eyelashes had fallen! Believing the occurrence to be an act of God, he plucked some of the leaves of the shrub and ate them. He was so refreshed and invigorated that from that time forward he went about lauding the virtues of the plant and strongly recommending its use to all his fellows.

It was not until near the end of the 16th century that tea found its way to Europe via the Dutch East India Company. In England it quickly caught the fancy of wealthy aristocrats who willingly paid as high as \$15.00 for a pound of the new luxury. Much of the tea was brought into England by smugglers who tried to beat the high duty imposed on it by the British Government. It is said that there are still many old caves and hiding places along the rocky coasts of Devon, Dorset and Cornwall where unlawful tea chests were buried by those early pirates.

From the year 1839, when the first consignment of Empire-grown tea was shipped to London and sold at auction for prices from \$3.00 to \$7.00 a pound, a great industry sprang up, and through the years we have become a nation of tea drinkers. Tea has always been the drink of the pioneer so it is only natural that Canadians should have become enthusiastic tea supporters. In 1815 a Hudson Bay Frigate bringing "Three Canisters of Bohea Tea" consigned to the Governor of York Factory is said to have arrived in Canada. In 1823 the ship "Countess of Harcourt" docked at Halifax with 6,517 chests of tea in the hold. Tea was the first freight to travel east by rail in 1886 from Port Moody, a point on the Pacific coast near what is now Vancouver. Today Canada is still one of the world's great tea drinking countries. In 1939 almost 36 million pounds were blended and packed here in the

Dominion, realizing a selling value at the factory of over \$18,000,000. A small amount of tea is imported into Canada and then re-exported to foreign countries. In 1939 this amount totalled around 646,000 pounds. Most of our tea comes from India and Ceylon, with a considerable amount coming indirectly via the United Kingdom. Some is coming from the Kenya Colony, although our importation of coffee from that country far exceeds that of tea.

No. 125 -- Sun. Feb. 2, 1941 -- Canadian War Activity

The Prime Minister made a nation-wide appeal to the people of Canada to-day to make a hundred per cent effort to do their share in winning the war in order "to save christian civilization from disaster". In the course of his broadcast he gave information as to the progress of Canada's war effort, of which the following is a very revealing summary:

THE WAR

"There are many indications that, within a very short while, the enemy will make a tremendous effort to destroy the British Commonwealth by a series of smashing blows of unprecedented severity."

"Total war will be waged in all its fury."

"There is only one way to meet total war ... that is by total effort ... until victory is won."

THE NAVY

Present plans will bring the Royal Canadian Navy to an estimated strength by March 31, 1942, of 413 ships and 26,920 men, compared with today's 175 ships and 15,319 men, and 15 ships, 1,774 men at the outbreak of war.

THE ARMY

Following formations to be sent overseas in 1941; the 3rd Division with its complement of corps troops; balance of the corps troops for the Canadian Corps; an army tank brigade to work with the Canadian corps; an armoured division.

THE AIR FORCE

Graduates of the empire air training plan to form 25 new Canadian squadrons overseas.

Present training plan strength of 36,000 to be doubled with 4,000 training planes in use by the end of 1941, compared with 1,700 at present.

Royal Canadian Air Force to be strengthened with additional squadrons for home operations.

THE HOME FRONT

Canada to concentrate on producing weapons not obtainable in the United States, such as Mark III tanks, small arms, Bren guns, air-craft machine-guns, anti-tank guns, ammunition for these weapons and explosives.

Naval gun and 25-pounder field gun production to be enlarged.

Canada to build destroyers and long-range bombers.

Two hundred thousand additional men and women required during 1941 to help man war industries.

WAR SAVINGS

"I wish to make an appeal to every Canadian ... to rally all our strength to save Christian civilization from disaster."

"No task ... is too humble, no labour too insignificant, no individual too poor or too weak to make contributions to the winning of the war".

"Now that the skies are full of sure signs of a gathering storm, the government of your country appeals to you to lend what assistance you can, as quickly as you can."

No. 126 -- Mon. Feb. 3, 1941 -- Garden Fruits and Vegetables

Fruit in the diet is healthful whether eaten fresh, canned, dried or otherwise preserved. It is an advantage for every farm garden to have at least sufficient small or garden fruits to supply the household needs. The home gardener should measure his success by the regularity and quality of the supply of fresh fruit and vegetables which are the product of his own efforts and that come to his table or into the hands of his family.

Home-grown, well ripened fruit is desirable because it is healthful, a valuable food, reaches the family fresh and in the best possible condition, and supplies fruit which in many cases would or could not be purchased.

The care of the home-garden fruits and vegetables provides a hobby and a congenial healthful odd-time occupation for many; for others-- those with a love of nature, gardeners with the creative sense -- the joy of seeing plants grow is life.

Garden fruits will prove either worth-while or disappointing depending largely on the choice of the fruits selected and the subsequent care given them in fertilization, cultivation, training and pruning. No fruit or vegetable garden, however well planned, will take care of itself and yield satisfactory crops. A constant vigilance is necessary if weeds and attacks of insects and fungus diseases are to be controlled.

The fruit and vegetable garden should be located in proximity to the house unless such a location is subject to both late spring and early autumn frosts. The soil should be well drained, deep, friable, porous, well supplied with organic matter, comparatively free of couch or similar weeds and rich in available plant food.

The ideal garden should be planned with vision toward a degree of permanency to accommodate such fruits as strawberries, raspberries, currants, gooseberries, grapes and rhubarb. Some of these (strawberries for instance) take two years to become fruitful and remain productive for a year or two at most, while others take about two years to become fruitful but then remain, if properly cared for, for from eight to ten years.

No. 127 -- Tues. Feb. 4, 1941 -- Wool in Wartime

For the past twenty-five years several million pounds of Canadian wool have been graded according to official standards. For the first time the entire clip of

commercial wool in 1941 will be graded and sold according to grade. Not since the last war has wool played such an important part in the nation's war effort as it does now. Total wool production in Canada in 1940 was 18,127,000 pounds compared with 17,843,000 in 1939. Consumption in 1940 amounted to 101,616,000 pounds, greasy basis, which is the highest figure in the last ten years; much of this volume was imported from other parts of the Empire and some from South America.

The volume of Canadian wool produced in relation to the total requirements is at present relatively small. However, the bulk of eastern production and a very considerable percentage of wool produced in Western Canada is of the quality known as military wool. It is important, therefore, to retain the essential characteristics of the various grades of wool without impairment. Day by day wool growing on a sheep's back becomes longer in fibre and the fleece while protecting the sheep from zero weather is steadily being grown into a finished product. On the sea, in the air, and on the ground wool keeps the armed forces warm and comfortable. Every pound of wool produced in Canada in 1941 will be needed.

Keep the fleece clean should be the care of every sheep raiser from now until shearing time. If Canadian wool is kept free of seeds, chaff and burrs, large quantities of clean fleeces can be piled up in the various grades, all of which are suitable for various lines of manufacture, either for military contracts or for civilian trade.

No. 128 -- Wed. Feb. 5, 1941 -- Apple Juice

Apple juice has made tremendous gains in popularity as a Canadian beverage. This is due in part to advertising, and also to the improved quality of the juice being offered for sale. This quality has been enhanced by improvements in methods of processing and containers so that now apple juice is conveniently available in attractive bottles as well as in several sizes of cans. People are drinking more apple juice not only because they are told that it is nutritious, but because they like it.

Considerable research by several agencies and investigators has contributed to the production of better quality juice. Improved methods of selecting and handling the fruit, de-aeration and flash pasteurizing of the juice have all assisted in producing a fine flavoured apple juice of good keeping qualities. Advancements in the treatment of tin cans for use with apple juice have also been beneficial.

While it is now possible to give the public a really good apple drink, additional research is still desirable. Present methods of manufacture may be further improved with a view to producing not only a uniformly attractive and appetizing apple juice, but one in which the maximum nutritive properties have been retained.

The Dominion Department of Agriculture has recently established standards for apple juice. This assures the public a more uniform and better product. The juice may be one of three types: clear, unfiltered, or a crushed, pulpy type, somewhat similar to pineapple juice in appearance. Thus there is considerable choice available in the selection of apple juice to meet individual preferences.

No. 129 -- Thurs. Feb. 6, 1941 -- Spring Flowers

While this is not official, it has been rumoured that we are to enjoy an early Spring this year. If that is the case, it won't be long before we shall be out digging around the herbaceous perennials that have begun to show some signs of life. At this time of the year when birds are making their return trips from the renowned sunny southland, the flowers most in evidence are daffodils, tulips, lilies and narcissus.

In peace time we depend almost entirely upon one little country in western Europe for our annual supply of bulbs -- Holland. Last year, however, with the Netherlands overrun with ruthless pirates, our supply from that source was cut off. This restriction on importations from the Netherlands limited the variety and quantity of bulbs available here in Canada, but many popular varieties were still obtainable. Word was received that the British Government had commandeered most of the bulb crop in the old country for export, so a goodly portion of English bulbs found their way to Canada, and will soon be sprouting in Canadian gardens and homes.

As both the money and the space were needed in England for furthering their struggle against tyranny, English plants were offered at very attractive prices. Canadians were urged to buy them as every dollar spent on British flowers did double duty, -- not only adding richness and fresh beauty to Canadian gardens, but providing funds for carrying the war to victory.

In 1939 florist stock was imported from the United Kingdom to the extent of almost \$35,000, but as usual by far the largest percentage of our bulbs, especially tulips, were received from the Netherlands.

No. 130 -- Fri. Feb. 7, 1941 -- Tourist Travel to Arctic

Tourist traffic to the western Arctic is increasing. Air and water transportation to the mining enterprises in the Mackenzie District are being used by growing numbers of visitors lured by the romance and mystery of the land of the mid-night sun. Travel to the northland reaches its peak during the months of June, July and August when the days are long and warm, and the vegetation is abundant. Except for a few weeks during the spring break-up and fall freeze-up, air transportation is available the year round, while travel over the water routes usually begins early in June and continues until the latter part of September. Hotels are operated at Fort Smith and Yellowknife, and stop-over accommodation is available at Resolution and Aklavik.

Modern aircraft, equipped with pontoons in summer and skis in winter have revolutionized travel to the North, and many remote areas which formerly could be reached only after days or weeks of travel by canoe or with dog team are now but a few hours' flying time from large centres of population. The Mackenzie Air Service Limited and the Canadian Airways Limited maintain regular schedules to most parts of the Mackenzie District, operating fleets of heated planes equipped with two-way radio to enable continuous contact with the ground system of wireless stations maintained throughout the Territories. The flight from Edmonton, Alberta, or Prince Albert, Saskatchewan to Yellowknife by way of Fort Smith or Goldfields may be made in a few hours, and from Yellowknife air transportation is also available to Port Radium on Great Bear Lake and Coppermine on Coronation Gulf.

Steam and Diesel-powered boats operate from the end of steel at Waterways, Alberta, and travellers may make the 1,600-mile trip down the Athabaska and Slave Rivers to Great Slave Lake and thence down the mighty Mackenzie River to Aklavik. The Hudson's Bay Company and the Northern Transportation Company both maintain passenger boat service, and other boat trips are available, including that to the Yellowknife mining area on the north shore of Great Slave Lake. Visitors to Aklavik can arrange for air transportation across the mountains to the population centres of Yukon and Alaska from whence the return journey may be made by coastal steamers plying up and down the Pacific Coast.

No. 131 -- Sat. Feb. 8, 1941 -- Soft Drinks

The quantity of soft drinks consumed in Canada has become amazing of late years. It has just about doubled in the last decade and appears to be still growing. In 1939 the factory value of the output was considerably over \$26,000,000. The imports were about \$70,000.

These are manufacturers' prices. Retailers' prices are much higher. The corner grocery may charge five cents for a bottle of ginger ale, but there are lots of places where double and treble that price is charged by the vendor. Sometimes even more than that. That being so it might be more or less close to the mark to guess that this country of eleven million people spends \$60,000,000 a year on soft drinks, or about \$5.50 for every man, woman and child.

Such an expenditure sounds fantastic, especially when it is remembered that babies in swaddling clothes are not given lemonade to quench their thirst and the older folk seldom indulge, although maybe paterfamilias, when he feels in need of a stimulant, may mix his whiskey with soda and his gin with ginger beer. Generally speaking, however, soft drinks are eschewed by the white-haired of the population.

Undoubtedly the young folk are the mainstay of this particular industry. They do drink it down, don't they? The swain who likes to swagger up to a hot dog stand with the chit he is sparking and throw a bill on the counter to treat, is really spending money. If he gets off with \$20 in a year he must be more parsimonious than he looks, for, after all, \$20 doesn't go very far in these evening excursions.

The obvious conclusion is that a halt in some of these peregrinations to the counter of the hot dog stands and the alluring city parlours where these attractive-looking coloured waters are dispensed, could be turned into a godsend for this Dominion in the shape of war savings stamps and certificates. Think it over.

No. 132 -- Sun. Feb. 9, 1941 -- In the Can

Technically referred to as the "hermetical sealing" of foods, canning and preserving has long since passed its infant stage, and now comprises one of Canada's million dollar industries. While the preservation of perishable foods for use at a later date has from the earliest times been one of man's chief endeavours, the first canning was not done until almost the beginning of the 19th century. Prior to this

time, the common method of preserving foods was by drying or "dessication", but this was not particularly satisfactory because of the loss of the original flavour and texture of the food. The use of salt and sugar was also quite wide-spread at this time.

One of the first records we have of the hermetical sealing of foods is a plan evolved by a Frenchman, around the year 1810. He had a process for preserving foods for use at sea which was purchased by the French government and given to manufacturing firms in both France and England. One of the basic principles involved in canning and which this new process introduced was sterilization. In these pioneer days of the preserving industry, glass and stone jars and bottles were used as containers and it was some time before they gave way entirely to the "tin can". In those days the methods of can-making were primitive and very slow. A tinker who could turn out 60 cans a day was considered a master workman for every tin had to be fashioned by hand. The last few decades have seen vast improvements in machinery especially adapted to the principles involved in canning. The cost has been so enormously reduced that now food preserved in tins is safe, convenient and within the reach of all classes of consumers.

Fruits were the first foods to be successfully canned. In January, 1940 there were almost 43 million cans of fruit on hand in Canada, held by canners, wholesale dealers and chain store warehouses. In January 1941 the preliminary estimate was placed at slightly under 47 million. It is interesting to note that more peaches and pears are canned in Canada than any other fruit.

In the vegetable class, peas have lately proved the most popular, with tomatoes a close second, and corn and baked beans following in order. Canned soups, however, are in greater demand here in Canada, particularly during the winter months, than either fruits or vegetables. The January preliminary estimate on stocks of soups was placed at something over three and a half million dozen cans.

No. 133 -- Mon. Feb. 10, 1941 -- Titanium Oxide

While it is one of the most commonly occurring elements in the crust of the earth, titanium oxide was regarded as a chemical curiosity until about twenty years ago. Since then its use has progressed from that of a paint pigment to a constituent of a countless number of everyday articles.

In fact wherever you turn in the course of a day you are likely to observe the effect of titanium pigments. When you awake in the morning you raise window shades made opaque with titanium and the pyjamas you doff are delustered with titanium. You take your shower behind a rubber curtain whitened by titanium or take a bath in a tub finished in vitreous enamel containing titanium. Your soap, shaving cream, and powder are whitened by titanium as is also the handle of your tooth brush. The linoleum or rubber flooring in the bathroom is attractive because of patterns made by titanium. The lighting fixtures are decorated with lacquer containing titanium, and walls, ceiling and woodwork have titanium pigmented paint or enamel. Toilet articles of celluloid or plastic material are whitened by titanium. You put on a shirt with a collar stiffened by a process in which titanium is used and the buttons are casein plastic brightened by titanium.

When you enter the kitchen for breakfast you find refrigerator, sink, bread and cake boxes, chairs and tables decorated with titanium pigmented enamels. Your

cereal is taken from a package whitened with titanium served on chinaware which may have had titanium used in the glaze to develop a pleasing colour. You drink from a glass to which titanium has helped to contribute the amber colour. Members of your family appear in leather shoes, belts, sport jackets, hats, all whitened by titanium. The children's rubber toys and your golf balls have it, as has the rubber cap and white rubber suit that your wife and daughter wear at the bathing beach. The outside of your house is painted with titanium pigmented paint.

Going to business you ride in an automobile with tire sidewalls whitened by titanium and the body finished in tinted enamel formulated with titanium as you keep on the right side of lines on the road painted with titanium containing traffic marking paint. At the office you handle stationery, bonds, insurance policies, books and magazines, all made opaque and whitened by titanium. You smoke cigarettes with paper wrappers whitened by titanium, from a metal container decorated with titanium enamels and inks.

Returning home to dinner you enjoy bread which was wrapped in paper made white and opaque by titanium, and printed with titanium inks. Your butter comes from a carton whitened by titanium as does the ice cream with which you finish your repast. Bedtime arrives and you take up your tooth paste container coated with titanium enamel, preparatory to closing a day in which titanium has served you in so many and various ways.

No. 134 -- Tues. Feb. 11, 1941 -- Potato Growing

In Canada the potato is used almost as freely as bread by all classes of people. It is adapted to growing in almost every section of the Dominion, extending from the extreme eastern provinces, where very large yields per acre are obtained, to the western coast. Northwards the potato has progressed towards the Arctic Circle, giving remarkable returns under cool climatic and soil conditions, wherever the season is frost-free long enough for the plants to make growth.

Canadian certified seed potatoes are highly prized in many countries and this circumstance has not been brought about by chance but through the efforts of the Dominion and Provincial Departments of Agriculture and by the growers in aiming to produce a disease-free vegetable. The influence of climatic conditions on the potato crop is considerable, and while soil is important and has not such a strong effect as climate, it is necessary that the land used for potato production be kept in a satisfactory state of fertility. There are also many other requirements, such as fertilizers, and manures, the best time to plant, how to plant, and the proper amount of seed, the varieties to be used, cultivation, ridging, tillage, the protection of the crop against disease and insects, harvesting, digging, storing and grading. The fullest information on all these and other subjects are contained in the seventy-two page bulletin entitled "The Potato in Canada" A copy of the bulletin may be obtained by writing to the Dominion Department of Agriculture, Ottawa.

The production of potatoes in 1940 amounted to 42,300,000 cwt. an increase of about 6,000,000 cwt. over the 1939 crop.

No. 135 -- Wed. Feb. 12, 1941 -- Good Swordfish Catch

Canadian swordfishermen had their best catch in four years, when they landed 2,296,000 pounds of broadbill swordfish during the 1940 season. This was an increase over the 1939 catch of more than 500,000 pounds. Excellent food fish, practically all the swordfish taken in Canadian waters are exported to the United States, where a brisk demand exists. After the heads are removed the fish are packed in ice for shipment and on arrival are sold fresh.

Apart from its value as a commercial fishery product, the swordfish is also a fighting game fish, and angling for these big fellows has become increasingly popular. The swordfish run to several hundred pounds in weight, and the angler who hooks one is assured of a genuine thrill.

Swordfishing operations are carried on in Nova Scotia waters, the greater part of the catch being taken off the coast of Cape Breton Island. Louisburg is the major centre of this fishing activity, but with the development of the new Cape Breton Highlands National Park the villages of Ingonish and Neil Harbour, situated near the park, will serve as operating bases for park visitors who wish to try their hand at this thrilling sport.

No. 136 -- Thurs. Feb. 13, 1941 -- Eels

Canadian eels make tasty dishes -- broiled eels for instance -- but the fish come a long way to get themselves caught. They're taken in fresh-water streams, 20,000 hundredweights or so a year, but to get there they had to come from breeding grounds far out in salt water -- indeed, there is scientific authority for saying that the breeding grounds are down in that mysterious weedstrewn Atlantic water, the Sargasso Sea, south of Bermuda. Even the eels in the many European areas where these fish are found are said by scientists to be Sargasso-born.

Whatever their actual place of hatching, eel larvae are carried by sea drift to the Canadian coast where, grown to elvers or baby fish a couple of inches long, they enter the rivers and streams. There they feed and grow until instinct turns them, as mature fish, back toward the salt water breeding grounds, and it is then, as the downstream migrations are in progress, that the fishermen make their catches. Incidentally, the eels which do escape the fishermen and get back to the breeding grounds never return to Canada, or do any more travelling anywhere, for eels are among the species of fish which die after spawning.

Much the greater part of the annual Canadian catch is ordinarily taken in the fresh-water fisheries of Quebec but the Maritime Provinces and Ontario are also producers. Hitherto, the fish have been marketed fresh, some of them alive, but in recent months eel canning has been undertaken, though not on a large scale, and fishery scientists have given some attention to the development of a satisfactory method of eel smoking. In the past there has been fairly substantial export business with the United States in fresh eels and in some pre-war years Germany was also a buyer from Quebec.

Broiling is perhaps the method most commonly used in cooking eels in Canada but Eel Matelote is another dish, a little more elaborate, which is favoured by some housewives.

No. 137 -- Fri. Feb. 14, 1941 -- Peanuts

Can you remember the last time you enjoyed a good big feed of arachis hypogaea? Perhaps it was at Christmas time when you over-indulged, despite your avowed intentions to eat sensibly. Maybe it dates back to the last hockey game when you sat on the edge of your seat and munched feverishly between outbursts of "Shoot!" and "Get that man!" Or possibly you are in the habit of buying some regularly, either in the shell or salted down. At any rate, you and several thousand other Canadians managed to make away with almost 47 million pounds of them during 1940. What are we talking about? Why peanuts, of course!

Generally considered to be natives of Brazil, peanuts were introduced to the Europeans shortly after the discovery of South America. It is believed that they were brought to this continent by the negro slaves imported from Africa, and it wasn't long before the cultivation of peanuts was widespread throughout the southern States. The plant belongs to the legumes family and requires a hot, humid climate in order to thrive. The nuts themselves are really the seeds and are formed underground like potatoes. Under ordinary circumstances, about 50 bushels of nuts and two tons of straw are obtained from an acre. Here in the New World, peanuts are roasted and sold as a luxury, either alone or in confectionery, while in the countries of Europe they are used mainly for making oil and feeding stock.

Last year Canada imported over 600,000 gallons of peanut oil, some edible, some to be utilized in the making of soap and canning fish, but by far the largest part was in the crude state for refining. Peanut oil is often used as a substitute for olive oil, and is of such excellent quality that few people can detect the difference. Most of the peanuts we get are imported in the green state from India and China and are roasted here in Canada.

Peanuts have been grown in Canada under careful supervision, simply as an experiment, but the season is not long enough or hot enough to allow the seed to fully mature. Most of the nuts produced have been exceedingly small and of inferior quality. So there is small likelihood of you every being able to go out to the garden and dig yourself a bag of peanuts.

No. 138 -- Sat. Feb. 15, 1941 -- Canada, Fourth Honey Producer

The latest available figures dealing with the comparative rank of the nations in honey production are given by the International Review of Agriculture. In number of colonies of bees, Russia ranks first with the United States of America second. Next comes Germany followed by France, Mexico and Turkey.

It is shown that in nearly all countries there has been a great expansion in honey production during the past ten years. In Germany from 1935 to 1939, the increase is estimated at 81 per cent. The uniformity of the increase as well as its extent is the subject of comment because of the fact that economic conditions have varied so greatly in the different countries. Canada stands out as among the most efficient in management according to the Review. Although ranking only sixteenth in number of colonies of bees it ranks fourth in volume of honey produced. Mexico has nearly one-half as many colonies of bees as the United States.

The island of Cuba is by far the largest exporter of honey, followed by

Chile. Mexico and Canada export in about equal quantity, while Guatemala with its comparatively small area exports about as much honey as the United States.

According to the Agricultural Branch of the Dominion Bureau of Statistics, Canadian honey production in 1940 amounted to 22,600,000 pounds, which was 21.6 per cent smaller than the 1939 crop. This drop in output was accounted for by unfavourable weather.

No. 139 -- Sun. Feb. 16, 1941 -- The Nutria

A few years ago pioneering Canadians imported a small but valuable fur-bearer from its native haunts along the rivers and streams of Brazil and Chile. He is known as the nutria; in the Spanish it means otter. But the name given him for scientific purposes or the "nom de plume" behind which he hides his true identity from the average layman is the highly distinctive and striking wordage "myocastor copyu", or copyu for short. The natives of Paraguay call him gioya. Some people call it the "South American Beaver".

This little animal is prospering in its adopted home. It resembles both the beaver and the rat, but authorities say that he is neither. When swimming with its tail under water it looks much like the beaver, but its tail is long, round and scaly and its hind legs are webbed. Generally it measures from 20 inches to two feet in length and weighs about ten pounds.

Years ago, before thought was given to introducing him to Canada, there was danger of the copyu becoming extinct. Measures were taken for its protection. Responding to these kindly measures they became so numerous that they were said to overrun the land in search of food. But a sudden epidemic again caused danger of their extinction.

Thus the nutria has been added to the long list of fur-bearing animals to be raised in captivity on Canadian fur farms. The fur is said to make good imitation beaver and when dyed is often sold as imitation seal. It is first recorded in Canada as a fur bearer in 1930 when ten animals were reported in Quebec. In the succeeding years this has developed into an industry in which 88 farms report nutria and the number of animals has increased to 798 by the end of 1939. British Columbia has 43 farms, Ontario 18, Alberta 10 and the provinces of Nova Scotia, Saskatchewan, Manitoba and Quebec 17 each.

During that period of time very few animals have been killed for pelts but there has been a steady increase in the sale of live animals, the sales in 1939 showing 296 sold at a value of \$8,145. This information is taken from a report issued by the Fur Statistics Branch of the Dominion Bureau of Statistics. The early importations were very expensive running into thousands of dollars.

No. 140 -- Mon. Feb. 17, 1941 -- Mineral Production in 1940

Of tremendous importance is Canada's mineral production in these days of war and it is, therefore, very cheering to learn that in 1940 our total mineral production was valued at \$529,000,000. This was an increase of 11.5 per cent over 1939

and constituted a record. It is the first year in which the production of Canadian mines passed the half-billion dollar mark. Gains over 1939 were registered in all groups. Metals production at \$382,876,328 showed an increase of 11.5 per cent. Fuels, including coal, natural gas and crude petroleum were valued at \$78,643,991, a gain of 11 per cent. Non-metallic minerals other than fuels reached \$25,791,407 -- up 3 per cent, and structural materials advanced 18.4 per cent to \$41,867,708.

Gold production totalled 5,322,857 fine ounces worth \$204,929,995, an increase in value of 11.3 per cent. The price of gold remained constant throughout the year at \$38.50 per fine ounce compared with an average value in 1939 of \$36.14. Silver output at 23,815,715 fine ounces was valued at \$9,109,273, an increase of 2.8 per cent in quantity, whereas there was a decrease in value owing to a drop in the average yearly price.

The combined value of the base metals -- nickel, copper, lead and zinc was \$155,839,877, an increase of 14.36 per cent. The value of the remaining metals aggregated \$12,997,183.

In the fuels group, coal production reached 17,551,326 short tons, an increase of 13 per cent. Natural gas at 35,954,000 M cubic feet, exceeded the previous year by 2.2 per cent and crude petroleum output totalled 8,717,345 barrels against 7,826,301 barrels in 1939.

Non-metals, exclusive of fuels, aggregated \$25,791,407, an increase of 3 per cent. Among the more important of those showing increases over the previous year, and for which data are released for publication, are gypsum, quartz, salt, silica brick and sodium sulphate.

In the structural materials group, clay products were valued at \$6,353,009 against \$5,151,236 in 1939. Cement gained 32 per cent to 7,559,643 barrels. Lime production reached 710,382 tons compared with 552,209 tons during the preceding twelve months. Stone output totalled 6,976,561 tons valued at \$6,956,318 against 5,443,522 tons worth \$6,455,696 in 1939, and sand and gravel output was approximately the same as in the preceding year.

No. 141 -- Tues. Feb. 18, 1941 -- First Homes of Canada

A study of Housing in Canada, based primarily upon 1931 Census statistics, although supplemented to a considerable extent by other materials, was recently issued by the Dominion Bureau of Statistics. It is felt that readers of A Fact a Day About Canada will be interested in some of the historical data. Excerpts have, therefore, been reprinted in the following pages.

Wherever wood was available, the log cabin or shanty almost invariably was the type of home built by the earliest Canadian settlers and there was little difference in the essential characteristics of these dwellings from one area to another. On the Prairies the sod house provided a noteworthy variation due to the absence of wooded areas. Progress in the early settlements was rapid, the one-room shanty in Central Canada (now, Ontario and Quebec) often being replaced by stone or brick structures within a single generation. In other areas, frame dwellings predominated even in the later stages of development. The nineteenth century witnessed a great

change in the homes of Canada brought about by more abundant supplies of building materials, better transportation facilities and the rapid growth of cities. Concentrations of population necessitated greater emphasis on water supply, sanitation, fire prevention and communication systems.

The principal urban development in Canada came after 1850, with Montreal, Quebec and Toronto being the only cities having more than 30,000 persons at that time. Growth was retarded by devastating epidemics among the poorly equipped immigrants and by feverish speculation in land values. Improvements in homes and living conditions came slowly at first but rapid progress was made between 1880 and 1914.

Modern underground sewage disposal systems did not completely replace the old open sewer until about 1900.

Effective horse-drawn fire fighting equipment came into general use between 1880 and 1890, about the same time as the telegraph fire alarm, while automotive apparatus was adopted later, between 1910 and 1920.

Modern municipal water systems existed in nearly all of Canada's principal cities by 1900, about one hundred years after the first private water supply company undertook to pipe water into the homes of Montreal.

Stoves had replaced fireplaces by 1850 but satisfactory hot-air furnaces did not come into general use until after 1880.

The invention of the tungsten filament incandescent electric lamp in 1911 greatly extended the use of electric lighting which had already largely replaced gas illumination over a decade earlier. The first gas lighting installation in Canada was made in Montreal in 1837.

The use of steam in both water and land transportation during the first half of the nineteenth century greatly facilitated the movement of merchandise and thereby contributed materially to higher living standards. Of even greater importance to urban dwellers has been the building of city and radial electric railways giving a much greater mobility to urban dwellers. These systems have been in operation in all the larger cities of Canada since 1900.

More recently, housing improvement has centred again upon innovations in actual construction technique which had been almost dormant for a period of fifty years. Efforts are being directed towards the production of lighter and more airy structures, designed to provide more actual living space in smaller and less expensive types of buildings. The pre-fabricated home, manufactured upon a mass production basis, has been the latest development in this direction.

No. 142 -- Wed. Feb. 19, 1941 -- Description of Canadian Homes

Nearly 60 per cent of all Canadian households in 1931 lived in homes ranging from four to seven rooms, while about 20 per cent lived in less than four rooms and approximately the same proportion in eight rooms or more. The most representative number of rooms per household was six. Of Canada's 2,252,729 households, 18.2 per cent were accommodated in homes of this size, which approximated the Dominion average of 5.6 rooms per household. The average number of rooms per urban household was 5.8, slightly above the rural average of 5.5 which was reduced by the

small number of rooms characteristic of farm homes in the Prairie Provinces. Owned homes were consistently larger than rented homes in both rural and urban areas, the Dominion averages being 6.1 and 5.0 rooms per household, respectively.

Over 86 per cent of Canadian rural homes in 1931 were of frame construction, but the proportion in urban areas was much smaller. Among the cities of over 30,000, it ranged from 4.9 per cent for Toronto to 90.6 per cent for Halifax. Wood was characteristic of the Maritimes, while brick and stone were prevalent in Quebec and Ontario. In the cities of the four Western Provinces, the proportion of frame dwellings ranged from 67.4 per cent in Regina to 88.1 per cent in Edmonton, with brick and stucco accounting for most of the remainder.

Single houses accommodated 96 per cent of rural and 59 per cent of urban households. Of the remaining urban households, 26 per cent lived in flats and apartments, 11 per cent in semi-detached houses, 3 per cent in rows or terraces, and less than 1 per cent in hotels and rooming houses. The number of rooms per household was consistently largest for single houses and was successively smaller for semi-detached houses, rows or terraces and apartments or flats. Children formed 51.1 per cent of the average Canadian household living in single houses, 47.7 per cent in apartments and flats, 47.5 per cent in semi-detached houses and 46.8 per cent in rows or terraces.

The popularity of apartments increased materially in the decade after the War and in 1928 the value of apartment contracts awarded amounted to 26.4 per cent of all residential building contracts. The percentage fell to 2.0 in 1933 and had mounted again to 14.2 for 1938.

No. 143 -- Thurs. Feb. 20, 1941 -- Housing Development in Urban Areas

The problem of urban housing development differed materially from those faced by the first settlers. Concentrations of population attracted enterprises, including lumber mills and brick kilns which made basic materials much easier to obtain. Merchants stocked other building requirements, including tools, nails and glass. The supply of labour increased with the growth of population, although it remained relatively scarce throughout the nineteenth century. As it became easier to procure shelter, however, other difficulties arose connected with protection from fire and disease and efforts to improve living standards.

Before proceeding to examine progress in urban housing, it might be well to review briefly the early growth of the first towns and cities. This, of course, was well advanced in French Canada and the Maritime area before settlement of any kind appeared in Upper Canada and the territory farther west. The population of Quebec City reached 5,000 about 1740, and Montreal attained the same number approximately twenty years later. By 1817 the districts of Halifax and Saint John had passed 5,000 but not until 1831 did York (Toronto) reach this figure. Within the next twenty years immigration to Canada was rapid and Hamilton, Kingston, London and Bytown (Ottawa) all left the 5,000 mark far behind. Western settlement did not come until considerably later and in 1870 the population of Victoria was only 3,270, while the site of Vancouver had not even been surveyed. The district of Winnipeg included only 241 persons, being still relatively small compared to other settlements in the Red River area. Other Prairie settlements, now grown into cities, took form between 1885 and 1900.

No. 144 -- Fri. Feb. 21, 1941 -- Speculation in Land

Another general consideration contributing to abnormal urban development, more especially in Ontario and the Western Prairies was the recurrence of speculative booms. These were very **common** in areas being opened up by the railways. John Howison found many examples of ungoverned speculative fever in his journeys through Upper Canada (Ontario) in the early 1800's. He commented upon one instance as follows:

"About twelve miles above the mouth of the Thames, I passed a spot called the town of Chatham. It contains only one house and a sort of church; but a portion of the land there has been surveyed into building lots, and these being now offered for sale have given the place a claim to the appellation of a town. There are many towns like Chatham in Upper Canada, and almost all of them have originated from the speculations of scheming individuals. Often while surveying these embryo towns, have I been shown particular spots of ground that were to be reserved for universities, hospitals, churches, etc., although not even a hovel had yet been erected within the precincts of the anticipated city."

The boom era in Western Canada followed the opening of a railway connecting Winnipeg with lines in the United States in 1879. From 1880 to 1885 the population increased from about 8,000 to 25,000 before a temporary reaction occurred. Land booms followed the railway across the Prairies and speculation in land became rampant. Embued, no doubt, with the buoyant optimism of the period, F.A. Talbot in 1911 wrote, speaking more particularly of the far West:

"Dense forest to-day, tents next week, wooden frame houses the following month, masonry buildings a year later, a healthy town in five years, a full-blown hustling city in ten years, with tramways, telephones and what not. Within a quarter of a century land grows so scarce and costly in the heart of the centre that the skyscraper has to be brought into vogue."

Such overstatement may produce a smile thirty years later, but it was sufficiently plausible bait to offer real estate speculators in that day. Western towns were laid out accordingly with the result that when the rapid acceleration in immigration ceased, the existing population had to bear taxation for the maintenance of streets and public utility equipment far in excess of existing needs. This has undoubtedly interfered with the natural course of subsequent development and has tended to discourage the ownership of homes.

No. 145 -- Sat. Feb. 22, 1941 -- Development of Sanitation Methods in Urban Areas

Sanitation in urban areas was one of the first problems to demand attention, and yet modern sanitary equipment was not thoroughly established either in Canada or abroad until early in the present century. Open cesspools and drains were not unfamiliar sights in English cities as late as 1875. Pigs still rooted in the accumulated litter of New York's back streets in 1850 and apparently civic provision for the removal of street refuse was very inadequate. In the newer settlements of Canada, the problem of sanitation received early recognition, but the first regulations concerning it make strange reading to-day.

The newly established settlement of York (Toronto) in 1800, its eighth year, issued an order to keep pigs from the streets. This ruling was rescinded in 1803,

however, and properly yoked pigs were again allowed to roam at large, presumably because of their value as scavengers. In 1797, Montreal engaged six cart drivers to carry away the winter's accumulation of refuse in the streets. In 1805, citizens were instructed to assist during April by gathering together all such materials bordering on their property but it was not until 1853 that the city acquired land on which to dump its refuse. In 1870, the task of removing refuse was let by contract to private individuals but this system proved unsatisfactory, and in 1893 civic employees were hired to perform the work. Later, in 1900, an Incineration Commission was added to the municipal staff. Apparently the private contract system persisted in many cities until as late as 1915, but between 1875 and 1900 municipal departments were established in most of the larger centres to perform this service.

Sewage disposal presented a vexing problem particularly in the first half of the nineteenth century. During that period underground sewers had by no means completely superseded open ditches draining into creeks and rivers. Mrs. Traill in 1832 commented at some length upon the open trenches along the Montreal waterfront and considered them a serious threat to health. Indeed, modern sewage disposal systems have been dated from the rebuilding of Hamburg in 1843 after it had been destroyed by fire according to the writings of A. F. Beamis. Enclosed sewers became indispensable with the adoption of the inside water closet but drains of this type were by no means general before 1900. Montreal made them obligatory only in 1901, although part of its sewage system was underground as early as 1835. The perfection of large size concrete tiling about 1900 greatly reduced the cost of sewage systems which had hitherto been built principally of brick. Most cities of Western Canada adopted underground systems in the early stages of their growth, as improved methods of engineering technique had already been introduced before these centres found it necessary to deal with the question of sewage disposal.

No. 146 -- Sun. Feb. 23, 1941 -- Development of Fire Prevention Measures

Fire prevention presented another serious problem, particularly in the cold winters when big fires were necessary for warmth, and water was extremely difficult to procure in sufficient quantities when flames got out of control. Chimney fires were common and occasionally serious conflagrations wiped out the homes of entire settlements. Sometimes damage ran into millions of dollars as in the case of the last big fire in Canada which destroyed Hull and part of Ottawa in 1900.

The settlement of York had its first experience with fire when the Governor's residence burned down in 1797. Subsequently, each householder was required to keep two buckets to be used only in case of fire and also two ladders. In 1802, Administrator Russell presented the town with its first fire engine and grateful citizens erected a fire hall by public subscription. An earlier gift of a fire engine was made by King George IV to the United Empire Loyalist settlement of Shelburne, N.S., in 1775. These engines and many that followed them were light and simply constructed, often being drawn by hand. Indeed, the streets of that time would have made it impossible to use effectively any machine of considerable weight.

Of Montreal's earliest efforts to fight fire, little is known, but it is on record that a horse was acquired for the fire corps in 1850. In addition to acting as firemen, the corps was responsible, until 1868 for watering the streets. By 1859, each sub-station had a horse and there were two at the central station "for the purpose of conveying apparatus to a fire". In 1833, Montreal organized

its first municipal fire brigade, which was also the first non-volunteer brigade in Canada. This was for some years reinforced by a volunteer corps of three officers and thirty-six men. There is no record in Canada of the early English practice of fire fighting companies which protected householders who paid specifically for this service.

The volunteer fire brigade played an important part in defending the homes and property of Canadian citizens and did not disappear from cities of Western Canada until about 1910. Improvement in equipment came gradually, but by 1880 horse-drawn engines were generally used in Eastern Canada and about ten years later, in the West. Automotive engines came into general use between 1910 and 1920. The telegraph fire alarm, although invented shortly after 1860, was not generally adopted for several decades and the observation tower on fire stations is still to be seen in some Eastern cities, although it serves little purpose now except as a place to stretch wet hose for drying.

No. 147 -- Mon. Feb. 24, 1941 -- Development of Urban Water Systems

The threat of fire, as already noted, was particularly serious in the early days when settlers depended principally upon streams and lakes for their water supply. Nor did the digging of wells later serve to reduce it greatly. Although the principle of the suction pump had been known to the Romans, the windlass and long pole used as a lever were employed extensively in the early settlements, and still are in out-lying rural districts.

Private companies first undertook to provide the older towns with water piped into individual homes. Such concerns were established in Montreal in 1801, in Saint John in 1838, and in Toronto in 1841, but apparently they proved unsatisfactory and the municipal authorities of newer settlements undertook to provide the water supply as soon as the size of the town warranted such a project.

The gradual acceptance of the water closet and bathtub in the nineteenth century made town residents much more desirous of possessing modern water systems. The water closet was first introduced into the United States in 1810 and the bathtub came later in 1842. The first American sponsor of the bathtub became familiar with it through Lord John Russell in England about 1840, although there are records of bathtubs as early as 2,000 B.C. Curiously enough, the bathtub met initially with considerable antagonism and was denounced both by the clergy of the day and by medical authorities. In spite of this, its acceptance was fairly rapid and by 1860, New York's leading hotel could boast of three bathtubs. Modern civic water systems existed in nearly all of Canada's principal cities by 1900.

No. 148 -- Tues. Feb. 25, 1941 -- Heating Methods

The development of scientific heating equipment has come, for the most part, within the past fifty years, although the principle of the present-day warm air furnace heating system is as old as the Roman holocaust. The earliest form of box stoves on the American continent has been identified with the name of Benjamin Franklin and dates from, approximately, 1750, while a stove made in Scotland and known as the Dundee was the first to be widely used in Canada following its introduction at

the beginning of the nineteenth century by British immigrants. It was composed of two sections, a lower one for fire, and an upper chamber for cooking and baking. This was copied by the early foundries of Lower Canada and it is of interest to note that the St-Maurice Forges near Three Rivers was built the first successful foundry on the continent. The earliest blast furnace on this site was established about 1733, nearly seventy years before the furnace at Lyndhurst, northeast of Kingston, which apparently was the first one built in the Upper province. The forerunners of the present-day under-oven range appeared about the middle of the nineteenth century. In this type, the heat moves across from the fire-box above the oven, then descends and completely encircles it before rising into the chimney.

Gas did not invade the field of cooking stoves until several decades later due to its expensiveness relative to wood as a fuel. The manufacture of gas cooking stoves was commenced in Toronto in 1881 but their adoption was very gradual and by 1905 there were only 8,992 stoves and 11,533 gas ranges in the city. However, popular favour increased widely from then onward and by 1922 there were 109,033 gas ranges and 35,354 gas rings in Toronto. Still more recently the use of electric stoves has become general in urban areas, although electricity has by no means superseded gas as a cooking fuel.

The wastefulness and inadequacy of stoves as a source of heat for large homes led to experiments between 1350 and 1860 with warm air furnaces in Canada. It was not until 1834, however, that a satisfactory system of circulation was evolved in which air was re-circulated rather than being replaced by cold air from the outside. With certain modifications this re-circulation system is still commonly used. It has been supplemented widely by steam heating units fueled with coal and in recent years with low grade oil. The development of steam heating has been one of the principal contributing factors to the rapid growth of multiple-unit dwellings. In the past fifteen years large central plants have been built which supply steam to heat the homes in areas comprising many city blocks. This method of heating is particularly effective where the climate is severe and winters are comparatively long.

No. 149 -- Wed. Feb. 26, 1941 -- Lighting

The lamps of antiquity had been replaced largely by the tallow candle before settlement in Canada began. Many pioneer examples of the former can still be found, however, somewhat resembling present day cream jugs with a spout from which a wick protruded. The candle remained in general use until the latter half of the nineteenth century, although gas lighting was common in larger cities by 1850. Both gas and electricity were regarded as impractical novelties in their first stages of development. It is said that gas lighting was introduced into a Philadelphia museum in 1820 and advertised as an attraction among the curiosities. Gas was installed in Boston in 1822, in New York in 1823, and in Philadelphia in 1837, the same year as the first Canadian appearance in a few Montreal shops.

The early electric arc lights were also a novelty, and on the occasion of their introduction to Toronto in 1879 by a local restaurant, free ice cream was served during the first day they were used. A small but important improvement in lighting was made possible by the appearance of glass chimneys for kerosene lamps in 1860. The latest important contribution to modern lighting equipment came in 1911 with the invention of the tungsten filament incandescent lamp which rapidly superseded the electric arc variety. The latter was not well suited to

use in private residences, although employed to advantage in street lighting.

Electricity did not generally replace gas illumination in Canadian cities until about 1900, although initially introduced over twenty years earlier. As with other developments, many Western cities did not reach their majority until lighting technique was in its later stages and thus had no experience with gas illumination except in the natural gas districts of Alberta.

No. 150 -- Thurs. Feb. 27, 1941 -- Communications

It is difficult to appraise the influence of improvements in communications upon the living conditions of a community, but undoubtedly this is a matter of first-class importance. The Scottish engineer Thomas Telford, famous for his roads in the Highlands of Scotland, was strongly of that opinion. Referring to his new Highland roads built soon after 1880, he wrote: "I consider these improvements among the greatest blessings ever conferred on any country ... It has been the means of advancing the country at least a century". The benefits contributed by roads and canals in that day, apart from the resultant appreciation in the land values, were probably due mostly to greater ease with which produce and merchandise could be moved. Today it has also become important that the population itself may have greater mobility, particularly within metropolitan areas. For the major part of the nineteenth century the worker in large cities had of necessity to live close to the factory or office. Now, he may live comfortably in uncrowded suburban areas as much as twenty or thirty miles distant from his work and yet obtain rapid transportation at a cost which less than two generations ago would have been deemed unbelievably low. The transition has been accomplished by rapid strides in the science of road building and the construction of locomotive and automotive equipment.

On the North American continent, the earliest significant improvement was in the realm of steam, first the steam paddle-wheeler on the principal water routes, and later the steam railway engine. The first steamship to operate in Canada was built in 1809 but it did not entirely supersede the old horse-boat packet for short distances until after 1850. This latter type of boat was propelled by two paddle wheels at the sides and received its motive power from horses which walked in a circle on the deck, turning the wheel shaft as they moved. The first Canadian steam rail system connecting La Prairie, opposite Montreal, with the Richelieu River, fifteen miles away, commenced operation in 1836. Rail development was rapid and the last spike in the Canadian Pacific transcontinental system was driven in 1885, less than fifty years after the first short line was finished. Canada now has approximately 42,000 miles of steam railway communication.

With respect to roads, quantity rather than quality was the slogan of the nineteenth century. Although macadam appeared in Canada shortly after widespread adoption in England, its use was limited largely to the principal streets of cities. Yonge Street in Toronto and a short stretch between Kingston and Napanee were among the few macadamized stretches of Upper Canada in 1840. Halifax streets were paved with macadam, however, before 1829. Asphalt presumably appeared considerably later since it was not used in London England, until 1869. Asphalt lanes were built for bicycles along the curbs of New York's main thoroughfares in the last quarter of the nineteenth century but apparently hard surfaces were by no means general even in the larger cities during this period. It was the coming of the automobile about 1900 which made hard-surfaced roads of growing importance. Hard-surfaced highways in Canada in 1936 aggregated approximately 10,000 miles in addition to the streets

of large towns and cities built mainly of asphalt and concrete. There were also 88,000 miles of gravel roads and 511,000 miles of earth roads. The automobile has become an increasingly important factor in suburban development, tending to relieve population pressure in the principal metropolitan areas.

Of even greater importance in this respect has been the rapid extension of urban and radial electric transportation systems. These rapidly replaced the old horse cars which had their vogue between 1860 and 1900. By 1913 all the more populous Canadian cities possessed modern street car systems which within the present decade have been supplemented extensively by the auto bus. With the extension of hard smooth-surfaced roads the obvious advantage of greater mobility and economical operation has made the bus increasingly popular.

Although fundamentally less important, the telephone and radio have come to be highly valued instruments of communication contributing greatly to the comfort and enjoyment of the modern home. The number of telephones in use in Canada rose from 4,400 in 1883 to approximately 1,200,000 in 1936. Radio's acceptance was even more rapid; considered a novelty for several years after the Great War, improvement in broadcasting and reception equipment caused radio sales to increase by leaps and bounds. In 1937 there were over 1,000,000 receiving sets in Canada, or almost one set for every two homes.

No. 151 --- Fri. Feb. 20, 1941 --- Progress in Housing in Fifty Years

Even from this very brief account of the improvement in Canadian housing standards, one cannot fail to note the striking acceleration of progress within the past fifty years. This would be made more impressive by the enumeration of the manifold uses which have been found for electricity in the modern home. The electric washing machine, the vacuum cleaner and the electric refrigerator stand out among the instruments which have combined with electricity to improve living conditions materially even within the last twenty years. Widespread acceptance of these devices has become much more rapid with the gradual extension of the districts in which electric power is available.

Within the past ten years, however, interest has again been focussed more and more on the structure of the home itself and it is probable that this tendency will increase. It has been fostered by high building costs associated with the conventional types of houses which have changed little in basic essentials for many years. Efforts are now being directed to produce less ponderous homes at low cost and to introduce an element of flexibility into their structure. Progress in this direction in the United States has not as yet been paralleled in Canada due in part to climatic considerations. There is no reason to believe, however, that climate presents an insuperable difficulty, and it may be anticipated that this new development will gather momentum as production technique in the manufacture of fabricated homes improves. The outstanding success of Sweden in this field gives support to such a view.

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DEPARTMENT OF
TRADE AND COMMERCE



A FACT A DAY ABOUT CANADA

FROM THE

DOMINION BUREAU OF STATISTICS

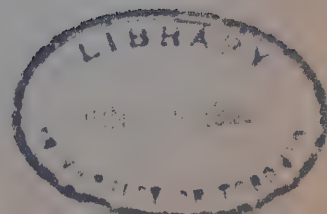
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James Muir,

Editor.

from the

Dominion Bureau of Statistics

No. 152 — Sat. Mar. 1, 1941 — Limestone

Limestone, on account of the great variety and importance of its industrial uses, is the most useful of all rocks. It is quarried in all provinces of Canada except Prince Edward Island and Saskatchewan. New uses for it are continually being developed, especially for ground and pulverized limestone in chemical processes. The application of the use of limestone in agriculture in Canada is capable of enormous development.

Although limestone is widely distributed throughout Canada and is quarried on a large scale from numerous quarries, it is one of the low-priced industrial minerals and, in consequence, it has been found more advantageous to employ foreign material at certain consuming centres in Canada, where it can be delivered more cheaply than from a domestic source. Such material is imported in considerable quantities from the United States and Newfoundland for use as blast furnace flux, and from the United States alone for road metal, and for some pulp mills in Ontario near the International boundary.

An appreciable increase has occurred in the production of limestone for structural use in Canada during the past year, particularly from Ontario and Quebec. The limestone deposits now being worked for building stone are favourably situated with respect to centres of population and the supply of stone is adequate for present and future demands.

Variety in the resources of limestone is an important factor insofar as utilization is concerned. Hard, tough, siliceous limestone is preferred for making of road metal and railway ballast. Agillaceous limestone, having a low content of magnesium carbonate, is utilized in the Portland cement industry. Agillaceous, magnesian limestone is desired for making rock-wool. The glass industry can use siliceous limestone provided the iron content is low. For most chemical and metallurgical uses, however, pure limestone, generally of the high-calcium variety, is preferred. Furthermore, where the limestone is to be used in its calcined state, it should be free from such impurities as would make the lime dark in colour. The great proportion of limestone products ranging from flux stone of various sizes down to granules for poultry grit and roofing granules, require careful crushing and screening. The pulverized products must also be very carefully prepared to conform to stringent specifications regarding fineness. Recent years have witnessed an increasing demand for washed stone.

According to the latest available information more than 4,149,500 tons of limestone were produced in 1939 valued at \$3,817,500.

No. 153 — Sun. Mar. 2, 1941 — Whiting Substitute

Whiting substitute, as the name implies, is chiefly used as a substitute for whiting made from chalk, from which it differs in certain of its characteristics and because of this it also has a field of usefulness of its own. It finds

its principal uses in the manufacture of oilcloth, linoleum, certain kinds of rubber products, putty and explosives. In lesser quantities it is used in the manufacture of moulded articles, cleaning compounds and polishes, as a ceramic glaze and for a number of other purposes. At present all whiting substitute produced in Canada is made from white marble or white limestone containing only a small percentage of magnesium carbonate, though in the past a whiting substitute made from white dolomite was produced in Eastern Canada for making putty. The marble and limestone are pulverized to such fineness that practically all of the product will pass a 326-mesh screen, though for certain uses 200-mesh material is suitable.

The principal differences between whiting substitute and chalk whiting are that the former is generally much whiter, has a lower capacity for absorbing oil, and the individual particles are sub-angular rather than rounded.

Carbonate filler, a product closely akin to whiting substitute and made by introducing carbon dioxide gas into milk-of-lime made from high-calcium quicklime, has been produced in Canada for the past three years. Its use up to the present has been as a filler in newsprint and book paper, and its manufacture has been undertaken by the paper companies using it.

By-product precipitated chalk, made from waste sludge resulting from the manufacture of caustic soda from soda ash and lime, is classed as a whiting substitute, but its usefulness is restricted by the fact that it almost invariably contains a small amount of free alkali. The raw materials for the manufacture of by-product precipitated chalk are available but it is not yet being made in Canada.

Slightly more than 15,600 tons of whiting substitute were consumed in 1939 by firms located in the paints and pigments industry, rubber industry and textiles industry.

No. 154 -- Mon. Mar. 3, 1941 -- New Use for Canadian Woods

Canadian-grown maple, beech and birch are replacing imported wood as top-pins in telephone line construction. Formerly all top-pins were made of yellow locust, this wood being favoured because of its strength and resistance to decay.

Research work indicated that sufficient strength was insured when maple, beech or yellow birch were used to make top-pins, but in their natural state these species lacked the durability of the locust. This shortcoming was remedied by impregnating the top-pins made from the domestic woods with creosote oil under pressure, which treatment increased their durability with no reduction in strength. As a result of this development, creosoted maple, beech or birch top-pins now meet the requirements of the consumers, and another outlet for domestic woods has been created.

Research with a view toward greater utilization of Canada's forest crop is of national importance, and the Department of Mines and Resources endeavours to improve the economic use of wood and to create wealth by preventing wasteful methods of conversion and utilisation. Although wood is more generally thought of in terms of planks and boards, the many articles manufactured from it are the equivalent of a large amount of lumber.

No. 155 -- Tues. Mar. 4, 1941 -- Control of Mosquitoes

When hungry and filled with blood lust, the female mosquito is a fierce and persistent biter. The males, of course, do not suck blood, as their mouth-parts are too feeble to pierce anything but delicate plant tissues, and moreover they lack the biological urge of the mother mosquito which must have blood to mature its eggs and to carry on the noxious race.

It is difficult to do much about these mosquitoes once they are on the wing. The best time to attack them is before they emerge from the water in which they breed. All mosquitoes develop in quiet water. In Canada, most of them are produced in temporary shallows such as snow-water pools, rainpools, and the flooded margins of ponds, lakes and streams. Their eggs are laid during the warmer months but usually do not hatch until after passing through the winter under the snow blanket, on the dead leaves and soil in low places. When the snow melts and rains fall and the ground is flooded, the eggs hatch. The larvae develop slowly when the water is cold, more quickly as the sun warms it, and when they reach full-growth transform into pupae and emerge a short time later as winged adults.

The largest numbers of mosquitoes usually develop from late April to early June, and it is during this period that action to control them is most effective. Other mosquitoes breed all summer in such places as rainwater barrels. The larvae and pupae breathe through tube-shaped organs that are forced through the water surface to the outer air. When a little petroleum oil is poured on the surface this penetrates the tubes poisoning and choking them. Thus, while they are helpless and concentrated in the water, great numbers can be destroyed. Another, even better method, is to drain away the shallow collections of surface water which form temporarily in the fields and woods in spring and are a prolific source of mosquitoes.

No. 156 -- Wed. Mar. 5, 1941 -- The Douglas Fir

In Canada there are over 130 distinct species of trees. Only 33 of these are conifers or softwoods, but they comprise over 80 per cent of the standing timber and 70 per cent of the wood utilized for all purposes. Of the deciduous-leaved or hardwood species, only about a dozen are of commercial importance as compared with twice that number of conifers.

The Douglas fir is Canada's largest tree and ranges from the east slope of the Rocky Mountains in Alberta, through to the coast of British Columbia and Vancouver Island where some of the finest commercial stands are found. In fact, with the exception of the redwood of California it is the largest tree on the continent. The tallest on record reached a height of 380 feet. These giants of the forest have been found measuring 15 feet in diameter and a single tree has been felled that scaled 60,000 feet board measure. Although few survive much more than 400 years, specimens have been found over 700 years old.

The wood of the Douglas fir is harder, heavier, stiffer and stronger than that of any other native evergreen tree. It is Canada's most important source of lumber and square timber and is used extensively for bridge-building, mine timbers, wharf construction, railroad ties and heavy framework of all kinds. It also provides an excellent material for boat, scow and other marine construction as well as in the production of veneer for the manufacture of plywood. It

possesses properties that enable it to be used for flooring and when treated in the form of blocks provides a long-wearing, noiseless and dustless pavement for roads.

The Canadian cut of Douglas fir in 1939 amounted to 1,595,000,000 board feet, and a ready market is found in countries the world over. The export in 1939 was close to a billion board feet. This information is taken from reports provided by the Forestry Branch of the Dominion Bureau of Statistics.

No. 157 --- Thurs. Mar. 6, 1941 --- Sap's Running

Rush up to any westerner and cry excitedly "Sap's running!" and the chances are he'd look at you once to see if you meant it, a second time to see if you looked ill, and then, deciding you must be a "mental" and to be humoured at all costs, reply "So what! He'll come back."

On the other hand, approach a man born and raised in the land of the maple and in the same excited voice utter the same two words. Like the westerner, he'd probably look at you a couple of times to see if you were in earnest but, once convinced that you were, he'd let out one hilarious whoop, drop everything and dash madly off to the nearest sugar bush.

Two such distinct reactions can only be attributed to the caprice of Mother Nature. In the woodlands of the East she planted the rare and beauteous maple tree, while on the rolling plains of the West she placed gophers and coyotes. In spite of the widely publicized fact that the miracles of modern science and engineering have reduced distance to a minimum, it is surprising how much the extremities of this Dominion have yet to learn about each other. The simple maple tree is a good example.

The maple groves of the East will soon be the scenes of great activity as the wintry snows are dispelled and the sap starts running in the trees. In the first flush of Spring, young and old are drawn to the woods where the delicate aroma of boiling syrup fills the air. These cold frosty nights and bright warm days induce a heavy flow of sap and it won't be long before "sugaring-off parties" are in full swing.

Sugar-making from the maple had its beginning away back in the days when Indians still tramped the wooded hills and valleys of Ontario and Quebec. Upon their arrival from the Old Land in the late 1600's, French priests settled along the St. Lawrence river and learned from the Indians the delectable properties of the maple tree. In those pioneer days the tree was gashed with a tomahawk or axe, in a slanting direction, and a wooden chip inserted to direct the flow of sap into wooden buckets. There was a more or less fine disregard for cleanliness and the resulting products were usually dark in color, with a decided smoky flavour and a fair percentage of impurities resulting from bits of bark, ashes, falling leaves or whatever the wind happened to whisk into the open kettles. Until a little over 55 years ago there was little improvement made in methods of sugar makers, but since that time the advance has kept pace with that in other branches of agriculture.

No. 158 — Fri. Mar. 7, 1941 — Reducing Sap Labour

The use of metal in every article of equipment with which the sap, syrup or sugar comes into contact has greatly reduced the sanitary labours of the maple sugar industry. Pipe-lines are laid to conduct the sap from the collecting tanks to the place of evaporation. As it comes from the tree, the sap is a very dilute solution of almost 96 per cent water, about 3 per cent sugar and the remainder is made up of small quantities of mineral constituents. The making of maple sugar consists primarily in getting rid of the surplus water, which is done by a process of evaporation carried out in what is commonly referred to as the "sugar-house".

Maple food products — sugar, syrup, butter and cream — are still generally considered luxuries, but with increasing population and wealth the market is continually broadening. In recent years there has been quite a demand for maple products for flavouring by the confectionery industries. Another good market is provided by some of the tobacco manufacturers who use maple sugar in preference to molasses to make more agreeable the weed.

The commercial production of maple sugar is said to date from around 1706. Before that time maple syrup and sugar were made primarily for family use, to augment a somewhat limited menu. To many living some distance from cities and towns, cane sugar was a rare delicacy, and very expensive. Consequently family necessity was the principal factor behind the maple sugar industry. It was about 1712 that the first consignment of maple syrup and sugar was shipped to market. This went from Sault au Recollet to Montreal, 10 miles away. From these modest beginnings, the industry has steadily progressed and now appears to be organized on a sound basis. "Mixers" who so bedevilled the market in early times have been dealt with, and control laws and official marketing grades now enable the consumer to buy with confidence.

Today Canada is the greatest producer of maple sugar and syrup in the world, her only competitor being the United States. Although maple trees are tapped in Nova Scotia, New Brunswick and Ontario, the industry is largely centred in Quebec. Last year 80 per cent of the syrup and 95 per cent of the sugar produced in Canada came from that province. In terms of syrup, the production of maple sugar and syrup in Canada in 1940 amounted to over three million gallons, valued at \$4,209,000, an increase of 20 per cent over the previous year's output. Practically all exports of maple products go to the United States, last year's shipments to that country amounting to over 882,000 gallons.

No. 159 — Sat. Mar. 8, 1941 — Canadian Crude Petroleum

Oil is one of the essential war requirements and while Canada's production of crude petroleum falls short by a considerable margin of meeting the domestic requirements, the steady increase in the output of the fuel is reducing the Dominion's dependence on foreign sources of supply.

The long-cherished hope that the Turner Valley would become an important producer of petroleum was realized in June, 1936, when a large flow of high quality crude was struck in Turner Valley Royalties well. Other wells were drilled in rapid succession and by the close of 1938 about 68 wells were producing crude oil. Exploration and development of the field was carried on continuously throughout 1939 and 1940. There are now a total of 131 wells in production in the

Turner Valley, 36 of which were completed in 1940. Another 25 wells are being drilled for oil, while preparations for drilling are under way at four wells.

Crude petroleum production in Canada set a new record in 1940, with the output estimated at 8,700,000 barrels as compared with 7,826,301 barrels in 1939. About 96 per cent of the output came from the Turner Valley field in Alberta.

No. 160. -- Sun. Mar. 9, 1941 -- Asbestos -- 1

The Magic Mineral

Did you know that eleven centuries ago a world war was averted by a small asbestos tablecloth?

Well, legend has it that a savage horde of cut-throats from the East once threatened to invade the kingdom of Charlemagne, king of the Franks. Like many another leader, Charlemagne had visions of a great empire increasing in wisdom and prosperity through long and successive years of peace and security. In a last endeavour to save his country from the unholy ravages of war he called a peace conference. In contrast with certain other conferences of more recent date, this one fulfilled its purpose, and peace was maintained.

The success of this ancient "parley" was due entirely to an asbestos tablecloth which Charlemagne had in his possession. At the conference he tossed the cloth into the open fire and before the astonished eyes of his foe's ambassadors the cloth was withdrawn unscathed. The guests were awestruck and convinced they had witnessed a performance of "white magic". With fear and wonder in their hearts they hastened back to tell their leader of Charlemagne's mysterious powers and advise against invasion. And so an empire was saved by asbestos, the "magic mineral".

Down through the ages asbestos has been an object of wonder and interest. Einstein claims it is the oldest thing in the world, and indeed it shows every evidence. The earliest record of it seems to be about 450 B.C., when a Greek sculptor fashioned a lamp of asbestos to burn incessantly at the feet of Athena. In the middle ages a king paid over \$6,300 for a single asbestos napkin. Marco Polo decided asbestos was a product made from skins of salamanders. A small asbestos purse was one of Benjamin Franklin's most prized possessions. These few records of the substance serve to illustrate the value that has been attached to asbestos from its earliest beginning to modern times.

No. 161. -- Mond Mar. 10, 1941 -- Asbestos -- 2

In its native state, asbestos is a rock, found in narrow veins between other types of rock. When crushed or "teased up" mechanically its crystalline composition causes it to become a mass of soft, silky fibres easily spun into thread and cloth or combined with other materials. Less than one hundred years ago asbestos was a novelty shrouded in mystery; today it is incorporated into everything from ships to Santa Claus whiskers. You can scarcely go through a day without coming in contact with asbestos in one form or another.

Although its natural colour is silvery grey, it can be painted all shades, and is used extensively in modern interior decorating. Fireplaces, hangings, ceilings and panels now use asbestos either alone or combined with cement or other materials. It is used in air conditioning and insulation, in roofing materials and siding, in electricity, sewage systems, and acoustical arrangements. Asbestos floats and is used in the manufacture of certain soaps, in plastic cements, in paints and even as bases for wigs.

Undoubtedly, its best known property is its resistance against intense heat. Probably this was the main reason for its use in ancient times. In the present conflict asbestos comes into play at almost every turn. Fire-fighters in England's bombed areas battle flames while clothed in asbestos suits. Asbestos is used in packings and brake linings in modern machinery, and in the construction of buildings. It can and does replace wood and iron in many instances, thus conserving these important raw materials for the manufacture of vital war supplies. These are only a few of the countless ways in which this so called "magic mineral" serves humanity from day to day, and its versatility is just beginning to be realized.

Although asbestos is to be found to a greater or less extent in almost every section of the Globe, the greatest deposits in the world are located in the province of Quebec. In 1880, the earliest year of which there is record of production of asbestos in the Dominion, 380 tons were produced, and in 1940 over 345,580 tons.

No. 162 — Tues. Mar. 11, 1941 — Golfing

The golfer's step is light and springy just now. Why? Spring is here of course! Long has he nursed that itch in his soul to be tramping the fairway and greens of his summer haunt. All winter his mind has been busy devising all manner of schemes as to how he will straighten that hook or slice or how he will get back his putting touch. Many of the more faithful have been spending hours every week at the golf schools endeavouring to better their games. No old man par will probably take a severe drubbing this summer when the army of golfers gets into full swing.

The past few years have witnessed an amazing growth in the popularity of golf throughout the length and breadth of the Dominion and is apparently destined to become even more so. It has come a long way from the lowly shepherds tending sheep on the Scottish uplands and grassy swards that border the sea where they passed the weary hours away playing golf. These were the forefathers of the fascinating game that commands so much attention nowadays. Long since has it ceased to be the wealthy, old man's game; for young and old, rich and poor have fallen prey to the mystic powers of the game. Gone too are the days when it was the thing to make the rounds of a course with nothing but a "cleek". A dozen clubs carried by a caddy is a common sight.

There are now several hundred courses in Canada, many of them municipal or public courses. Outstanding in their setting are the courses built in some of Canada's National Parks. The links at Banff Park and Jasper Park in the Rocky Mountains are numbered among the world's most excellent and scenic courses. Surrounded on all sides by massive mountains, these links provide a truly wonderful setting for the royal and ancient game.

Some idea of the popularity golf has attained may be gained from the latest available production figures submitted to the Dominion Bureau of Statistics by Canadian manufacturers. In 1939 golf equipment and supplies of all kinds were produced to the value of close to \$482,500, which amount was supplemented to some extent by the imported article.

No. 163. -- Wed. Mar. 12, 1941 -- Certified Seeds

The service of crop and seed certification as administered throughout Canada provides a seed supply of dependable purity and grade of the newer as well as many of the older varieties of crops. The service makes available seed of the highest quality obtainable of non-registrable varieties, and thereby assists the multiplication of valuable new variety introductions. It also promotes the distribution of seed of forage crops as free from specified noxious weed seed impurities as can be determined by field and seed inspection. It encourages the greater use of improved seed, supervises the multiplication of approved seed stocks and provides a medium through which recognition may be given to the enterprise of growers who engage in the work of production of a seed supply of superior quality.

Seed crop certificates are issued to growers throughout Canada following each inspection season. They certify that the crops to which they apply were derived from seed stocks of established pedigree, history, and origin; that they were found to be pure as to variety or true to type within the latitude allowed by the standard as prescribed, or free from specified weed impurities in so far as could be determined by field inspection.

Certified seed as defined in the Seeds Act 1937 is therefore the product of a crop covered by a seed crop certificate. In addition, it is seed found to conform to much higher standards of purity, germination, and general quality than the ordinary seed of commerce. Further it is seed sampled, inspected, and graded by an inspector and sealed by him in containers, to which he attaches seed inspection certificate tags bearing his signature and the approved metal seal. The use of such seed means good crops, all other things being normal.

No. 164 -- Thurs. Mar. 13, 1941 -- Commercial Printing . . 1

Commercial printing had its beginning in Canada in 1752 when the first edition of the Halifax Gazette was struck off in the printing office in Grafton Street conducted by John Bushell. The first newspaper in Quebec appeared in 1764 when the Quebec Gazette was founded. The Royal Gazette and New Brunswick Advertiser appeared at Saint John in 1785 and the first paper in what was then Upper Canada appeared in 1793 at Niagara (then Newark) under the name of the Upper Canada Gazette and American Oracle.

The first issue of the Halifax Gazette was printed on a half sheet of foolscap. Some of the weekly editions of present-day Canadian papers run from 60 to 100 pages, 8 columns wide and 28 inches deep, with a circulation exceeding 200,000 copies. In the middle of the last century we were just emerging from the town crier stage of advertising while to-day advertising is a highly specialized industry employing thousands of workers and consuming acres of paper every minute of the year.

The education of the people and the printing industry have marched hand in hand during the last half century in Canada. Cheap school books and reading matter have aided education as is shown by the fact that literacy in those over five years of age increased from 82.9 per cent in 1901 to 90.0 per cent in 1921 and showed an additional increase to 92.3 per cent in the 1931 Census. With the ability to read came the demand for increased production of printed matter which has stimulated the publishing business in Canada.

This report does not cover publishing as a business but only the production of those publishing concerns which do their own printing. Other sources of information, however, show that in 1892 Canada had about a thousand publications in circulation of which 100 were daily papers, 650 were weeklies, and 200 monthly publications. In 1937 the total was 1,805 of which 116 were dailies, 1,010 weeklies and 454 monthlies and the daily papers alone have a circulation of over 2,200,000 copies, a higher average than one daily paper to each Canadian home with a fairly large circulation outside of Canada.

No. 165 -- Fri. Mar. 14, 1941 -- Commercial Printing -- 2

An interesting development in connection with commercial printing is the growth of the small country weekly of which there are about a thousand in circulation in Canada to-day. In the majority of cases the publishers of these are subscribers to what are known as "Ready-Print" services provided by centrally located printers and publishers. The local publisher of an 8-page weekly for example, can buy from the ready-print service as many copies as he requires of four pages of general matter already printed, together with four blank pages on which he can print in his own plant the local news and advertising of his neighbourhood. The ready-print material or "Patent inside" consists of news of general interest, editorial, agricultural information, domestic hints for the housewife and fiction. The advertisements are of a general nature which will not interfere with local advertising. The small country weekly is thus able to provide its readers at a low cost with a paper of more general interest than would otherwise be possible. This service has increased the number and individual circulation of weeklies and is an important branch of the printing and publishing industry.

Since its establishment at Halifax in 1752, printing and the allied graphic arts as an industry has moved steadily westward and is still continuing to do so although it is at present centred in the province of Ontario. Toronto is the most important printing centre at present, with Montreal second and Winnipeg third. The industrial and commercial development of the Prairie Provinces is reflected in the increasing importance of commercial printing. In 1901 the total output of Winnipeg's 14 printing establishments was valued at less than a million dollars. To-day over 110 establishments report an output valued at over seven million dollars.

No. 166 -- Sat. Mar. 15, 1941 -- Paper Boxes and Bags

The use of paper for packing and wrapping in the distribution of goods of all kinds is a comparatively recent development in modern business. Not so many years ago all kinds of commodities were sold in retail stores in bulk, each individual purchase being wrapped or placed in a bag when sold. With the demand for the more hygienic handling of foodstuffs came the development of the trade in so-called "package groceries" and the consequent demand for cartons and boxes made of paper board.

At the present time practically all non-perishable foods and many other classes of products are packed in containers by the manufacturer in quantities small enough for retail sale. In addition to these small individual packages there has been an enormous increase in the use of larger paper board containers for wholesale packages and for long distance and export shipments. In many cases these are being extensively substituted for wooden boxes, crates and packing cases. Among the developments of this new use for paper board are folding cartons which can be packed flat in bundles by the box manufacturer and shipped to the distributor who can easily assemble them by hand for final use.

In 1939 there were 152 establishments in Canada included in the paper box and bag industry with an output valued at \$29,832,000. Their chief products included corrugated boxes, folding boxes, set-up boxes, self-opening bags. In addition they made a host of other products ranging from waxed paper and paper dishes to venetian blinds.

No. 167 -- Sun. Mar. 16, 1941 -- Tobacco Production

The tobacco plant is a native of the Western hemisphere, particularly that part of it now known as Central America and the northern part of South America. It was not until 1556 that tobacco was first introduced to any other country outside the American continents. It was brought to France in that year.

Previous to the beginning of the 15th century, no attempt was made to commercialize the cultivation of tobacco. John Rolphe of Jamestown, Virginia, husband of the famous Pocahontas, was the first to produce a marketable crop in 1612. Such was the beginning of the tobacco industry in the United States and the export of tobacco to the United Kingdom. Since that time tobacco has been grown in practically every principal country throughout the world.

The major development in the Canadian tobacco industry has taken place since 1926 and has been due almost entirely to the phenomenal increase in the production of flue-cured tobacco, particularly in Ontario. The total Canadian crop in 1939 reached the record level of 107,703,000 pounds and the exports for that year totalled 32,200,000 pounds. Loss of export markets due to the war, a sharp cut in acreages and extensive frost damage to the flue-cured crop reduced total output in 1940 to approximately 60 per cent of the previous year and reversed the trend of production which had been sharply upward since 1936.

No. 168 -- Mon. Mar. 17, 1941 -- Mustard

Suppose we have a little chat about mustard, that yellow wild flower that stains so many grain fields in Canada. Some folk think it is the real mustard that makes so fine a condiment for meat. It is not so. The real mustard for table use is a regular seed crop and the earliest examples our western peoples got came from India apparently. It is now cultivated in many countries.

Many grain fields are so infested with mustard that one would almost think it had been seeded deliberately. Every farmer knows, or should know, that wild mustard has no commercial value. It is just a weed which has been allowed to have too much of its own way all across Canada, and if the consequences of allowing

mustard to reproduce itself freely were more generally known, a more determined effort would be made to wipe out this invader.

The reduction in the yield of oats due to mustard has been determined at the Central Experimental Farm in Ottawa for the past seven years. The figures show that the average loss of oats due to a heavy infestation of mustard is 7.5 bushels per acre or 13.9 per cent of the crop. Consider also the depreciation in the value of a farm due to mustard. No one can accurately determine the amount of this loss but certainly many prospective purchasers reject farms because they are polluted with this weed.

Of the many different methods which have been tried to control mustard none is so effective as chemicals. A three per cent solution of copper sulphate applied as a spray at the rate of approximately 70 gallons per acre kills practically 100 per cent of the mustard in a grain crop and does not kill the grain. Equally good results are secured by applying calcium cyanamid dust at the rate of 100 pounds per acre.

Cyanamid is also a nitrogenous fertilizer and the increased yield of grain resulting from its application often pays the cost of the treatment.

A number of other treatments such as harrowing when the grain is young and increased rates of seeding grain reduce the stand of mustard to some extent but cannot be regarded as anything approaching a 100 per cent control. By the way, the factory value of prepared mustard in a year in Canada is around \$150,000 for 125,000 gallons.

No. 169. -- Tues. Mar. 18, 1941 -- Hosiery

It may come as a surprise to many Canadians to hear that Canada is the world's largest exporter of fullfashioned hosiery. Last year something over 5,000,000 pairs of women's fine stockings were shipped to 53 countries across the globe. In addition to this 31,000,000 pairs were manufactured for the domestic market.

For such a young industry, less than two decades old, the Canadian hose-making trade has taken great strides. Canada's place at the head of the export field is due to the superiority of the Canadian product both in the matter of serviceability and appearance.

Back of this reputation is the skill and ingenuity of a solid phalanx of Canadian workers. Over 7,000 employees work in 28 fullfashioned hosiery mills across the Dominion, applying their experience and talent to the production of fine hose.

Under war time conditions they are facing a new problem, that of continuing to produce high-test merchandise though their materials are being changed. To save valuable foreign exchange the industry is reducing the amount of silk used in hose and is mixing the available silk with substitutes such as lisle and rayon. Fine filaments of substitute material are twisted with the necessary amount of silk to produce fine hosiery, and the yarns thus made are used in knitting not only the tops and feet, but the leg panels of stockings too.

Use of these new "composite" yarns is a comparatively new field for Canadian stocking makers and presents something of a challenge. They are meeting it, however, with success. New types of composite yarn hose are appearing on the market and are more than meeting the demands of fastidious Canadian women. And thanks to the craft of the workers who handle the machines and the dye-pots, the new stocks are possessed of that great feminine essential, "Glamour".

No. 170 -- Wed. Mar. 19, 1941 -- Gardening in War-time

Home gardens can always be justified, but in times of economic stress they assume an increased importance, the object being to supply as much of the daily needs as possible during the growing season, and whatever can be grown for canning or winter storage.

After deciding what crops to grow, it is always helpful to plan a garden on paper before planting time. This makes for a better use of the space, as defects can be rectified beforehand. It is usually wise to group whatever crops that can be closely spaced. Likewise, crops that mature rapidly, or crops which require the whole season for maturity, are best kept together. Where possible, certain vegetable seeds for home use should be produced. With some annual and biennial crops this is not difficult to do. Again, plan to have a continuous supply, by using varieties which ripen at different dates, or replant the ground after early-maturing vegetables have been harvested.

As to soil preparation and fertilizers, wet land should be drained and heavy soils ploughed or dug in the autumn to help the pulverizing effect of frost action. Barnyard manure is generally accepted as the best fertilizer for gardens, with commercial fertilizers being either supplements or substitutes. One ton of manure, or failing that, 30 or 40 pounds of a 4-8-10 commercial fertilizer should be sufficient for 1,000 square feet of land that has a fair amount of humus present. If the soil is sour, 25 pounds of hydrated lime should sweeten a plot this size.

Good seed is a first essential, especially if it is a good strain of a good variety. Good varieties are common knowledge, but it is not so well known that there is quite a difference in the productive power between strains of the same variety.

For best results, a garden requires constant attention. A good start is often ruined by neglect later. Weeds get control, or plants get out of bounds. Weeding, thinning, pruning have to be done, and insects must be combatted systematically. Given careful thought and regular attention, however, a garden in war-time should be an asset to the whole family.

No. 171 -- Fri. Mar. 20, 1941 -- A War Fable

One of the best stories of the war comes from Belgrade this morning. As reported by the Associated Press it is as follows:

A simple tale told in bedtime story fashion, like the stories of the animal kingdom that lull children to sleep the world over, blew up a furious

diplomatic storm in Belgrade today, particularly among the Italian and German diplomats seeking to woo Yugoslavia into the Axis.

The newspaper Pravda, which is close to the Government, printed the story. Axis diplomats immediately expressed displeasure, and admitted that only the delicacy of present negotiations with Yugoslavia prevented strong official protests -- if not worse.

Here's the story.

In the forest one day the Wolf decided things were all wrong in the animal world. Some smaller animals were getting more to eat than they deserved. The Lion was too completely master of the situation so the Wolf decided something had to be done about it -- only those of Wolf blood should be allowed to rule.

The Wolf started out by gobbling up all the beetles in sight on the ground they lacked Wolf blood in their veins and were a nuisance anyway. Then he started swallowing a few smaller animals living near him.

The Lion paid no attention to their pleas because he himself had eaten a few smaller animals in his day. But as the Wolf came nearer the Lion's den the Lion got nervous and announced he would fight the Wolf "to the last little animal".

Then the Hare, admiring the Wolf, said he would like to become the Wolf's ally.

"You are a coward by nature," the Wolf replied, "but if you disguise yourself I will accept you."

The Hare agreed.

The Fox, allied with the Lion, at first pretended to fight the Wolf but soon gave up because he was old, worn-out and lazy. The Hare in disguise entered the battle just as it was ending, seizing the Fox's tail as a trophy. Then, swelling with pride, the Hare began attacking the weakest animals -- birds, fish, frogs.

But when the Hare heard the Lion's roar he started fleeing across the desert. None was able to catch him. Finally his disguise fell off and other animals realized that although he had taken on the teeth of a Panther he was no Panther, although he could run backward like a Deer he was no Deer, although he wore the Eagle's feathers he was no Eagle.

The Wolf finally told him: "If only I had you as an enemy I could quickly dispose of you, but inasmuch as you are my ally I must protect you. The best I can say for you is you at least have a good ally."

No. 172 -- Fri. Mar. 21, 1941 -- Save the Wild Flowers

All over Canada the appeal to save the remaining wild flowers of the country has again been made by the various Horticultural Associations of the Dominion. Some of Canada's most beautiful wild flowers have disappeared forever,

and the species that remain are in danger of the same fate. The appeal to all Canadians is emphasized by the Provincial Horticultural Associations, and in the case of Ontario special stress is made by the Ontario Association with reference to the saving of the White Trillium, the floral emblem of the province, which is in grave danger of extinction. The appeal is directed against the reckless plucking of wild flowers. The preservation of wild flowers does not mean that no one is ever to pick any of them, but the appeal does emphasize the necessity of a little thought on the part of the picker.

Some of Canada's wild flowers should not be picked at all, because through doing so, they will eventually become extinct. In this category of wild flowers which should better be left alone in all their native beauty is the White Trillium. The Trillium, like others of its kinds, cannot be picked without removing all the foliage upon which depends the maturing of the bulbous root for the following season's crop of flowers. Far better than picking, is to transfer the entire plant to some quiet nook or in the garden. There are many little spots in busy cities where the White Trillium or other wild flowers could flourish, and in this way, in Ontario at least, the emblem flower would be saved from being a name in history only but, instead, present ever-living evidence of the beauty of the province.

Other species of wild flowers, like violets and hepaticas, whose flower stems rise directly from the roots, may be picked at will, provided the body of the plant is left undisturbed. Tearing up a plant by the roots to gain a bloom is wanton destruction and should be condemned by all who believe in the present system of civilization.

There are many other agencies at work in the disappearance of wild flowers. Birds which pick the seed, the woodman's axe, clearing and cultivating farm lands, building up cities, close grazing of fields and woodlands, forest fires, and soil erosion have all been responsible for the gradual destruction of much of the natural floral beauty of Canada.

No. 173 --- Sat. Mar. 22, 1941 --- Salmon Spawn

Some species of fish are more prolific spawners than others, of course, but a check made by the Dominion Department of Fisheries has indicated that the eggs of a spawning Atlantic salmon weigh nearly one-third as much as the fish itself. The check was only incidental to certain fish culture operations in the Maritimes but it is not the first time that some interesting bit of information about fish and their ways has been a by-product of the regular work of the branch, which is concerned with maintaining and increasing fish stocks in areas where the fisheries are under federal administration.

The check was made when eggs were being stripped from Atlantic salmon for incubation in departmental hatcheries. Some of the fish which entered into the case were stripped at Allen's Lake, near Yarmouth, N.S., some at Saint John, N.B., and some at the Matapedia River in northern New Brunswick --- 328 of them in all. Each fish was tagged for identification purposes and then was weighed before stripping and after. The pre-stripping weights aggregated just a trifle less than 3,750 pounds and the eggs that were taken from the fish weighed 901 pounds. In other words, the salmon themselves weighed about 2,850 pounds and, put on the

percentage basis, the eggs were equal to a little more than 31 per cent of the weight of the fish.

After being stripped of their eggs, the tagged salmon were set free again and when any of them were recaptured they were put on the scales for another weighing. Several of the Allen's Lake fish, retaken after about six months of freedom, were found to have regained the poundage lost in the stripping operation. After a year's liberty one of the Saint John fish showed a gain in excess of the stripping loss and three others, landed during the second year after liberation, showed a greater gain than their sister who had been free for only one year.

No. 174. -- Sun. Mar. 23, 1941 -- Wood for Aircraft

Wood is regaining its position of importance as a material for aircraft construction. Wood was the principal material used in the early development of aircraft, but since the last Great War special light metal alloys have received a great deal of attention. Recent developments in adhesives for use in wood fabrication, particularly in the manufacture of waterproof plywood, have contributed to renewed interest in wood for aircraft.

The two principal Canadian woods for aircraft are Sitka spruce of British Columbia and yellow birch of Eastern Canada, the former for structural members and the latter for plywood for wing and fuselage covers as well as for other interior members. Research has shown that birch, western white birch, silver birch, and hard maple may also be used for aeroplane plywood, and that other species of spruce may be used instead of Sitka spruce for many aeroplane parts. Basswood, white ash, black cottonwood, poplar, red alder, yellow cedar, western hemlock, the true firs, Douglas fir, and other species may also be used for specific purposes in aircraft manufacture.

Canada is fortunate in having a wide variety of softwoods and hardwoods that can readily meet the most exacting requirements of aircraft construction, and the large body of skilled wood-workers in the Dominion is a further asset of great importance at this time.

No. 175. -- Mon. Mar 24, 1941 -- History of Census-Taking

As of June 2, 1941, the Census of the Dominion will be taken. The Census has been called "the largest single act of administration of the Government", in reference partly to its physical extent -- the census organization covering every section of the country for a many-sided task -- and also to the great importance of census results.

The success of the Census depends largely upon the cooperation of the people. Without a general appreciation of the ends in view, and without the cordial assistance of individual citizens towards these ends, a good census will be impossible. A brief description of the scope, methods and purpose of the census and of its place in statistical and general administration will therefore be of interest and utility at the present time.

Census-taking dates from the dawn of civilization. Moses numbered the Children of Israel in the fifteenth century B.C. (Exodus XXX, 12-15; Numbers 1, 2-4 and 47-49; III, 14-16; IV, 34-49). But statistical investigations were made many centuries earlier, in Babylonia, (4,000 B.C.), in China (3,000 B.C.), in Egypt (2,500 B.C.) A census taken by King David in 1017 B.C. achieved evil notoriety in history from the Divine wrath which it provoked (II Samuel XXIV, 1-25; I Chronicles XXI, 1-27), and was cited for many generations in opposition to the spirit of scientific inquiry. The Census was one of the institutions founded by the great lawgiver Solon at Athens in the sixth century B.C. The Romans, too, were assiduous census-takers, both under the Republic and the Empire; Julius Caesar reformed the census among other things. The Breviary of Charlemagne (A.D. 808) and the Domesday Book of William the Conqueror (A.D. 1086) are celebrated mediaeval censuses. Later, the census disappeared from Europe.

It may not be generally known that the credit of taking the first census of modern times belongs to Canada. The year was 1636; the census was that of the Colony of New France. There had been earlier records of settlement at Port Royal (1605) and Quebec, (1608), but the Census of 1636 was a systematic "nominal" enumeration of the people, (i.e., a record of each individual by name), taken for a fixed date, showing the age, sex, place of residence, occupation and conjugal condition of each person. The results are to be seen in a document of 154 pages in the Archives of Paris, of which a transcript is in The Public Archives at Ottawa. Altogether this Census recorded 3,215 souls. When it is recalled that in Europe the first modern Census dated only from the eighteenth century (those of France and England from the first year of the nineteenth), whilst in the United States no Census of the country as a whole was taken before 1790, the achievement of the primitive St. Lawrence Colony in instituting what is today one of the principal instruments of Government in every civilized community may call for more than passing appreciation.

At Confederation the British North America Act specifically mentioned "The Census and Statistics" as falling within Dominion as distinguished from Provincial jurisdiction (Section 91). The first Dominion Census Act was passed in 1870, and the first Census was taken thereunder in 1871. Similar comprehensive censuses have followed every tenth year, namely, 1881, 1891, 1901, 1911, 1921 and 1931. The Census of June 2, 1941, is therefore the eighth comprehensive decennial census to be taken since Confederation.

No. 176. -- Tues. Mar. 25, 1941 -- Objects and Uses of the Census

With the census of ancient times we would today have little sympathy. Originally the census was no more than a means of mustering men for foreign wars and of enabling kings and oligarchies to tax their subjects. So far are we removed from this conception that it is now expressly forbidden to use census data for any such purposes.

In Canada the fundamental legal raison d'être of the Census is to determine the representation in our federal Parliament. As is well known, the British North America Act gave the Province of Quebec a fixed number of seats (sixty-five) in the Dominion House of Commons. The number assigned to the other provinces was pro rata, with an arrangement that the first readjustment should take place on the completion of the Census of 1871, and that a similar readjustment

should follow every subsequent decennial census. The Census is thus taken primarily to enable a redistribution bill to be passed by Parliament.

But the Census has far wider uses than to fix electoral representation. It constitutes, under the modern system, nothing less than a great periodical stocktaking of the Canadian people, designed to show from the widest angle the point that has been reached in the general progress of the nation. It is difficult within brief compass to explain how this function is fulfilled.

Fundamentally, the importance of the Census hinges upon its analysis of the human element or man power of the country. The people themselves are after all the basic asset of every state. Their numbers, sex, age, occupation, racial origin, language, education, etc., etc., are facts in themselves of the greatest moment. They constitute, moreover, the background against which almost all other facts must be projected if the latter are to have real significance. The well-being of the state - physical, moral, economic - (including such varied phases as birth and death rates, education, transportation facilities, financial conditions, etc.), together with its ills in any form, can be apprehended and interpreted only through the medium of population statistics. Even if the Census went no farther it would be the basis of all study of our social and economic conditions. Linked with other official data, however, it rounds out the scheme of information by which as by a chart the Government directs the national affairs.

Without the Census, it is literal truth to say that legislation and administration would be carried on in the dark, and that there would be no means of knowing whether the country was on the road to success or disaster. So cogently is this felt that censuses at five-year intervals, instead of ten, are universally advocated, the chief drawback being the heavy cost.

As the practice of nations in regard to census-taking tends more and more to uniformity, the Census affords the benefits of comparison with other countries and enables our national problems to be studied in their general setting. Especially is this true of the countries which constitute the British Commonwealth.

No. 177. -- Wed. Mar. 26, 1941 -- Census Schedules

The schedules used in the Census are eight in number, dealing respectively with Population, Agriculture, Horticulture, Live Stock, fruit growing, etc., Housing, Merchandising and Service Establishments, Blindness and Deaf-Mutism, and Institutions (penal, mental and neurological, child-bearing, homes for adults, hospitals, sanatoria, dispensaries, clinics, day nurseries). Merely to state the questions asked on these would be impossible here.

The population schedule carries some forty columns, recording for each person the name, family, kind of dwelling, age, sex, conjugal condition, birthplace, citizenship or nationality, racial origin, language, religion, education, occupation, unemployment, etc. etc., in all necessary detail.

The schedule relating to agriculture was drawn up in consultation with Dominion and Provincial Agricultural Departments and other agricultural authorities, and in the light of the suggestions made for a World Census of agriculture by the International Institute of Agriculture. It will elicit a wealth of information on

such features as farm acreages, land values, buildings, implements, crops, fertilizers, farm labour, orchards, small fruits, farm gardens, live stock, poultry, animal products, forest products, land tenure, irrigation, drainage, cooperative marketing, farm mortgages, etc., etc.

The schedule on animals, etc. in towns is supplementary to the agricultural schedule; there are of course a considerable number of horses, cattle, poultry, bees, etc. within urban limits, and their products, and those of market gardens, town orchards, etc. are in the aggregate important. Indeed, at the instance of fruit and vegetable growers' associations throughout the country, a special schedule on this subject has been devised for the present Census.

Further, a detailed schedule on housing has been incorporated into the present Census in order to obtain full information regarding the kind of homes in which the Canadian people live; this schedule, however, is to be taken on a sample basis, in respect of every tenth home visited by the enumerator. The schedule on industrial and business concerns collects only the name, address and class of each; this is for the use of a subsequent detailed inquiry which will be conducted through correspondence by the Bureau, as in 1931.

The record of the blind and of deaf-mutes is to facilitate the work of educational and other institutions for these classes. The population in institutions will be enumerated in the regular way by means of the Population schedule proper, but it is intended that a special inquiry shall be handled direct from the Bureau with the heads of institutions in order that not merely the numbers of men, women and children committed to such institutions may be obtained, but also facts regarding the characteristics of the inmates, causes of commitment and other information which will furnish the basis for a complete analysis of problems incidental to social life, and act as a guide to the Provincial Governments and organizations engaged in social and welfare work.

In connection with these somewhat elaborate and searching series of inquiries the following points should be clearly understood: (1) that no question has been inserted merely because the information would be interesting, but only because it has a bearing on basic social or economic conditions; and (2) that the answers given by the individual are absolutely confidential, every employee of the Census being under oath and penalty against revealing any individual item, and the Bureau of Statistics itself being forbidden to issue any statement that would lay bare any personal matter. Though the name of each person is taken down this is not for the purpose of associating the individual with any of the facts that are recorded, but merely as a check on the accuracy of the enumeration. The census is first and last for statistical purposes and cannot be made the basis of any direct administrative action. Let it also be noted that census enumerators are required to use courtesy and tact in collecting the information, though refusal to answer a census question is penalized by statute.

No. 173. -- Thurs. Mar. 27, 1941 -- Collection of Census Information -- 1

The organization by which this far-flung investigation is carried out and its results reduced to comprehensible and usable form is a large one. Its nucleus exists in a small permanent staff constituting one of the branches of the

Bureau of Statistics. This branch maintains connection between census and census, so that experience is continuous and cumulative. When a census impends, all plans are originated by it, and the necessary expansion of personnel is arranged for. The latter falls under two main headings, the field work or collection of the facts, and the compilation and tabulation of the latter into census reports.

In planning the field work the country is first divided into "census districts", each of which is placed in charge of a "census commissioner". The districts are then divided into "subdistricts", varying in population from 600 to 800 in rural localities, and from 1,000 to 1,800 in urban. The subdistrict is the territory allotted to a "census enumerator", who conducts the house to house and farm to farm canvass, and who is the only census official with whom the public comes directly in contact. One object of the census being to determine Parliamentary representation, the act directs that census districts shall correspond as nearly as possible to the federal constituencies for the time being, whilst the subdistricts are to be roughly the same as the polling subdivisions. Some of the constituencies, however, are too large for one commissioner and are accordingly divided; departure is also necessary in a good many cases from the polling units. Altogether the Census of 1941 will employ 249 commissioners and probably 16,000 to 17,000 enumerators. The commissioners are appointed by the Minister, and instructed by an officer of the Bureau; the enumerators are appointed and instructed by the commissioners, who must also check and vouch for all the enumerators' returns before the latter are forwarded to Ottawa. All field officers are paid for the most part on a "piece" basis, i.e., according to the population, farms, etc., enumerated. All are required to pass a practical test in the work before appointment.

For a Census that covers half a continent, embracing the most varied conditions of nature and settlement, uniformity of plan is clearly impossible. For the remote and seldom penetrated regions of Ungava, Northern Ontario and the West, the organizations of the fur-trading companies and of the various church missions have been engaged. In other similar regions the Royal Canadian Mounted Police will take the Census, whilst the agents of the Indian Department will perform a like service for the Indian population on reserves and elsewhere. Representatives of the Department will visit the remote northern and sub-arctic regions. Even in districts that are closer, there remain a large number of cases where pack trains must be organized, steamers chartered and similar special means employed to ensure that no section of the country escapes enumeration. Aeroplanes will be used in some districts.

No. 179. --- Fri. Mar. 28, 1941 --- Compilation of Census Information

Census compilation and tabulation is an elaborate and detailed process which would take much space to describe. An interesting feature is the use of machinery in compiling and analyzing the returns. The method is very briefly as follows: The several facts obtained for each individual are punched on a specially designed card, the perforations showing by their location the exact information obtained at the census.

The cards are then sorted and otherwise manipulated by machines which count and record various combinations of data as required, according to the perforations on the cards. For example, should it be desired to know the number of, say, civil engineers, of Canadian citizenship between the ages of 21 and 50,

in the province of Ontario, the machines will pick out and count the cards in a few operations. The invention of these machines, of which the Bureau of Statistics has a large battery, some being of its own invention and construction, has greatly increased the scope and accuracy of the information derivable from the Census, at the same time that it has halved the cost. A record exists of over a million and a half classifications by one machine in a single day.

It is expected that from two to four weeks from June 2nd will suffice in normal localities for the completion of the field work. After the third or fourth month it should be possible to give out the first results for many cities, towns, counties, etc. As to when the absolutely final count by provinces for the entire Dominion will be available, so many unforeseeable contingencies are possible that prophecy is dangerous, but it is expected that four or five months should enable a close approximation to be made.

No. 180. -- Sat. Mar. 29, 1941 -- Careful Planning of Census

The foregoing explanations will have given an outline of what the Census is and how it is carried out. It remains only to say that the whole has been planned with the utmost care, with the experience of other countries and of seven previous censuses of Canada in view, and with special reference to the requirements of the present hour and also to the necessity of not burdening the community with any inquiry that is not fully justified.

The Census, therefore, merits the support of **each** and every citizen as a patriotic duty. It is taken for the benefit of the community as a whole and therefore directly or indirectly of every member of the community. Never before has there been the like need for census information. Since the last Census the great depression and the subsequent recovery and now the war have left scarcely a branch of the national life untouched. Especially is an appraisalment of the national status necessary at the present moment in view of the problems of post-war reconstruction for which preparation must be made in advance.

An appeal to the people is therefore made to assist in this great national undertaking by furnishing the information fully and accurately and thus helping to render the Census worthy of the Dominion and of the serious purposes which it has in view.

No. 181. -- Sun. Mar. 30, 1941 -- School Children and the Census

Every school has a register of children in attendance and the roll is called every day. Every year, at the end of the school year, the teacher is required to make up the record of attendance and send it in to the Department of Education. In it are recorded the names and the ages and the grades of each of the pupils. The roll call and the records made from it are very important as showing the standing of your school and of each of its pupils. You would not like to be left out of the roll call when all your friends and playmates were in it.

Just in the same way, Canada has its roll call, though the roll for all Canada is called only once in every ten years, in the years ending in "one", like 1941. This is the year of the roll call, and the roll will be called in June, just when you are beginning to think of your summer holidays.

Every ten years since the Dominion was formed in 1867, there has been a roll call of all the people in the country. The first was in 1871 and the last in 1931. The last roll call was the seventh in the history of the Dominion and this will be the eighth. This roll call is called the Census.

You older children of ten years of age and more were recorded in the roll call or Census of 1931, and now you must take care that you are all recorded in the Census of 1941. Perhaps you will not have to answer the roll call yourself, but if not your father or mother or the head of the house in which you live will do so for you and tell the man, who comes around to your house to take the Census, all about you, or at least all that is asked for at the Census. The Government at Ottawa wants to know the answers to all the questions that are asked about everybody living in the country in June, from babies to grandfathers and great-grandfathers, since correct answers to these questions will help them to run the country better during these next ten years. See to it that you are not left out of this roll call of all Canadians, since, if you should be left out people might think that you were not a Canadian at all. There will not be another chance to answer this roll call of all Canadians for ten whole years, so make sure that you are not missed this time.

Again, the man who comes around to every house asking questions is interested not only in people but also in livestock, since the Government wants to know how many horses and cattle and sheep and pigs and hens and chickens there are in the country, because we get a lot of our food from cattle and sheep and pigs and poultry. Also the Government wants to know how many horses are available for farm work and for drawing waggons and sleighs. Moreover, the Government wants to know all about the grain that is grown in the country, the root crops, vegetables, fruits and so forth, so that we may be sure that we have enough food for our own use and enough to send out to other countries in exchange for the things that we bring in from them. You are very lucky to be living in Canada at this time, because in many countries, owing to the war, children do not get enough of things to eat.

Again, the Government wants to be sure that we all have enough to wear. Some of our clothes are made from wool; some of our clothes are made of cotton, which is brought from the Southern States, as the cotton plant will not grow in Canada. Also, some of our clothes are made from silk, which is made by silk worms in Japan and which we get in return for the goods which we send to that country, just as we send goods to the United States in exchange for their cotton.

Next, the Government wants to make sure that all Canadians have proper shelter against the cold of our Northern winter. Therefore, the Government is asking a lot of questions about houses in this Census to see whether there are enough houses and houses of the best kind to give shelter to the people and make them comfortable. If the Government finds that there are not enough houses of the right kind, it may help to provide them by lending people money to enable them to build houses.

See to it, then, that you are not missed in the great roll call that will be made in June throughout the whole length and breadth of Canada, from Sydney to Prince Rupert and from the Great Lakes to the Arctic Ocean. And tell your fathers and mothers that the answers should be right.

No. 132. -- Mon. Mar. 21, 1941 -- Great-Lakes-St. Lawrence Development

With the signing at Ottawa on March 19, 1941, of the Great Lakes-St. Lawrence Agreement by representatives of the Governments of the United States and Canada and with the signing on the same day of an agreement between the Dominion and the Province of Ontario in regard to the same matter, the first steps were taken to initiate a great program of development in the interest of navigation and power throughout the Great Lakes-St. Lawrence Basin which, when carried out, will have far-reaching effects in both countries. Before construction is commenced on this project the Canada-United States Agreement must be ratified by the Congress of the United States and by the Parliament of Canada and similarly the Canada-Ontario Agreement must be ratified by legislation at Ottawa and Toronto.

The Great Lakes-St. Lawrence Agreement of 1941 includes in one document substantially the same features as the 1929 Niagara Convention plus the 1932 St. Lawrence Deep Waterway Treaty; both of the latter having failed of ratification in the United States. It provides for the construction of the remaining links of a 27-foot waterway from the head of the Great Lakes to Montreal; for a combined power-navigation scheme in the International Rapids Section of the St. Lawrence River, the power to be developed in a Controlled-Single Stage Project yielding about 2,200,000 horse-power divided between the two countries; for the preservation of the scenic values of Niagara Falls combined with increased utilization of Niagara Falls combined with increased utilization of Niagara power; for the stabilization of the situation in regard to the Chicago diversion; and for the utilization for power purposes of waters which may be diverted into the Great Lakes System from other watersheds, such utilization being granted to the country making the diversions.

The power benefits in Canada accruing from the provisions of the 1941 Agreement are realized from three sources: From the diversion of Ogoki and Long Lake waters into the Great Lakes-St. Lawrence Basin, from the additional diversion of 5,000 cubic feet per second at Niagara Falls upon completion of remedial works, and from the Controlled-Single Project in the International Rapids Section of the St. Lawrence River. In all, these provide for ultimate development of more than 1,600,000 horse-power in Canadian territory.

Under the Canada-United States Agreement, the Canadian Government, subject to certain necessary adjustments, will undertake the construction of works in the International Rapids Section of the St. Lawrence on the Canadian side and the United States will provide the funds for the construction of all such works except machinery and equipment for the development of power and works required for rehabilitation. Under the Canada-Ontario Agreement, Ontario will pay to the Dominion \$64,125,000 for its rights under the agreement. Of the other works required to complete the deep waterway, Canada will undertake the deepening of the Welland Ship Canal and the development of the Canadian Section in Quebec for navigation. The United States will deepen the navigation channels in the upper lakes area, will construct a new lock at Sault Ste. Marie, and side canals and locks and the power works and works common to power and navigation on the United States side of the International Rapids Section. Resulting from the provisions of the 1941 Agreements, the net cost to Canada of the whole undertaking is estimated to be \$42,343,000.

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DEPARTMENT OF
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CANADA

A FACT A DAY ABOUT CANADA

FROM THE

DOMINION BUREAU OF STATISTICS

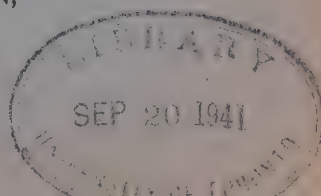
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James Muir,

Editor.

from the

Dominion Bureau of Statistics

No. 183. -- Tues. April 1, 1941 -- Saying It With Flowers

The time-honoured custom of saying it with flowers still prevails in Canada, according to a recent report which reveals that Canadians spent more than two million ~~dollars~~ for cut flowers during the past twelve months.

Famous in song and poetry because of its beauty and fragrance, the rose was by far the most popular, with sales totalling 14,679,104 valued at \$758,496. Other highly favoured flowers included carnations, chrysanthemums, daffodils, tulips, and sweet peas. Orchids were the most costly with an average value of 58 cents each, sales of this flower totalling 70,393 valued at \$41,049.

Although the amount of money spent on cut flowers is impressive, it is relatively small compared with the intrinsic value of the profusion of flowers that grow throughout the Dominion. The amateur gardener derives a joy which cannot be measured by money, and to those who visit the woods and meadows the wild flowers are an inestimable source of pleasure and interest. From the dainty hepatica, which bursts into bloom as soon as the snow departs, to the purple aster which presages the fading autumn, nature supplies an ever-changing and widely varied assortment of flowers, each growing at its own season and in its own habitat and geographic range.

Nowhere is the beauty of the flowers more impressive than in Canada's system of national parks. From Cape Breton Highlands National Park on the Atlantic to Mount Revelstoke National Park in the Selkirks, the wild flowers lend to the landscape touches of colour which stand out in delightful contrast to the green foliage of the forest or the gray rocks of the alpine uplands. To those who visit parks, the finding of a familiar flower is like meeting an old friend.

No. 184. -- Wed. April 2, 1941 -- Mosquito Protection

Those who spend time outdoors, either for recreation or otherwise, are likely to be subjected from time to time to attacks by mosquitoes and blackflies, especially during spring and early summer. Other biting flies such as the stable fly, the horse fly, the deer fly, and the tiny midges known as punkies or "no-see-ums", whose bites are "tiny needle-points of pain", are troublesome pests in certain areas, but are not so widespread, numerous and annoying as mosquitoes and blackflies. Any measures that can be taken to secure protection from these blood-thirsty insects will result in more comfort and efficiency in work and increased enjoyment of outdoor recreation.

A pamphlet on this subject has been prepared by the Department of Agriculture. This contains numerous practical suggestions on simple protective measures that may be taken, and gives several formulae of mixtures or fly dopes that are of value in warding off attacks when applied to exposed parts of the skin. Among these are (1), oil of citronella 3 oz., spirits of camphor 1 oz., oil of tar 1 oz., castor oil 4 to 6 oz.; (2) oil of citronella 1 oz., spirits of camphor 1 oz., oil of cedar $\frac{1}{2}$ oz., castor oil 2 oz.; (3) oil of lavender 1 oz., oil of citronella 1 oz., castor oil 2 oz.; (4) pyrethrum extract (30 lb. extract) 1 oz., oil of thyme $\frac{1}{2}$ oz.,

castor oil 2-3 oz. The purpose of the castor oil (which may be substituted by olive oil or petrolatum) is to serve as a carrier and to retard the loss of the essential oils. It may be omitted from formulae 2 and 3 if desired. Formula 4 has been found particularly satisfactory and is popular among workers and others in forested areas where biting flies are plentiful.

All the oils mentioned can be bought at a nominal price from any drugstore.

No. 185. -- Thurs. April 3, 1941 -- Junior Farm Clubs

The Canadian Council on Boys' and Girls' Club Work again reports an increase for 1940 in the membership of the clubs of the farm boys and girls of Canada, bringing the membership up to 47,047, as compared with 45,314 in 1939. This is an increase of 1,733 members, or 3.8 per cent, and is all the more remarkable from the fact that the increase in 1939 was 21 per cent greater than in 1938 and is still being continued under the distracting circumstances of war.

A clear picture of the steady advance of junior farm club work since 1931, the year in which the Canadian Council was organized, is given by a study of the membership. In 1931, the members numbered 21,142, followed by 21,430 in 1932; 23,432 in 1933; 26,700 in 1934; 30,282 in 1935; 33,640 in 1936; 35,141 in 1937; 37,254 in 1938; 45,314 in 1939, and 47,047 in 1940.

This steady growth of club membership is closely associated year by year with the improvement in the character of the work through the adoption of methods designed to make club experience more useful and educational to each member. The year 1940 proved no exception, further progress being reported in all branches of the work, particularly in the development of that important factor in successful club work which reaches its peak in efficient local leadership.

While the members have been active in carrying out the requirements of their club projects, at the same time they have fully identified themselves with Canada's war effort, both by actual participation in providing food and active assistance to the various welfare societies, as well as their quota of investment in war saving stamps and certificates, and donations to war funds.

No. 186. -- Fri. April 4, 1941 -- Canned Fruits and Vegetables

It is estimated that during the past months approximately fourteen and a half million 20 oz. cans of apple juice were sold. On the whole, however, the pack of canned fruits for the twelve months under review was considerably less than in the corresponding period of 1939-40, the principal decrease being in apples, peaches, pears and raspberries.

The total pack of fruits for 1940-41 is given as 58,550,172 cans, or approximately 2,439,590 cases, against 3,573,939 cases in the previous twelve months. However, the pack of canned vegetables showed a considerable increase, being estimated at 19,189,295 dozen cans, or 9,594,647 cases, compared with 7,588,055 cases in 1939-40. The pack of peas was almost double that of the preceding year, and tomatoes increased about 11 per cent.

There were 529 fruit and vegetable canning factories operating in Canada during 1940-41. Of these 280 were located in Ontario; 91 in British Columbia; 83 in Quebec; 27 in Nova Scotia; 24 in New Brunswick; 10 in Prince Edward Island; 8 in Manitoba; 4 in Alberta, and 2 in Saskatchewan. In addition there were 49 non-active plants under licence. During the year, inspectors of the Canning Section made 11,680 visits to plants; issued 11,383 export certificates; graded 10,973 samples for domestic trade, and among their many other duties visited military camps throughout Canada to check the grades of jam and canned goods issued to the troops.

No. 187. -- Sat. April 5, 1941 -- Searchlight on France

France to-day has been divided by her conquerors into three zones. There is the forbidden zone, consisting of the departments of the Nord and Pas de Calais, familiar to those who used to cross to France by the short sea routes. This zone is attached to the German G.H.Q. at Brussels, not Paris, and the Germans have more than once remarked that "after the war" this detachment from France will be permanent.

In the occupied zone the Nazis have been careful to include not only the ports and air bases suitable for attacks on England, not only space in which to mobilize a huge army for invasions, not only the capital, but most of the richest land and of the wheat-growing areas. The remainder forms the so-called unoccupied zone, whose capital is the mountain spa of Vichy.

To these three divisions must be added a fourth - a non-geographical division -- the prisoners of war who number nearly 2,000,000 and who have for the most part been transported to Germany. The historic provinces of Alsace and Lorraine have been torn from France and have become part of the Reich. The majority of the French inhabitants have been expelled and forced to leave all their belongings, except a few personal effects, behind them.

Ninety-five percent of the inhabitants of occupied France live only in the hope of a British victory. They detest their conquerors with a great and growing hatred. They listen eagerly to the French transmissions of the B.B.C.

The showing of German news films frequently provokes disturbances. In a Dieppe cinema recently a film showing the exploits of the German and Italian forces provoked cries of "Down with Hitler -- down with Mussolini." Result, a fine of 1,000,000 francs imposed upon the town.

Hitler was never more cunning than when he decided to leave that part of France which was of no use to him economically or militarily in the illusion of freedom and to stay Mussolini's grasping hand in the seizure of the French African Empire. Had the Germans occupied the whole of metropolitan France and the Italians even a part of the Empire, the spirit of resistance would soon have flamed up again.

No. 188. -- Sun. April 6, 1941 -- Breeding Sunflowers

At the present time only a small quantity of sunflower seed is produced annually in Canada. There has been no great demand for large quantities of this seed on the Canadian markets. The relatively small quantity which is annually

produced in this country is sold mainly to seed houses or used in poultry feeds.

A number of varieties of sunflowers have been thoroughly tested at most of the Dominion Experimental Farms in Canada where it has been found that good seed can be produced from some of the earlier maturing varieties. The seed yields have not been very high but it has been disclosed that great variations occur in the percentage of oil that can be extracted from the seed.

The amount of seed and percentage of oil in the seed was found to be influenced to some extent by most of the factors which effect plant growth. However, great variation exists in the quantity and quality of the oil in different strains out of a particular variety.

Considerable progress has been made during the past few years in selecting and breeding for high oil content in the seed. In a number of lines selected out of the Mennonite variety the percentage of oil in 1936 varied from 21.5 to 38.3. In 1939, the variation in the oil content in another crop was from 16.5 to 34.6 per cent, while at the same time the average percentage of oil in the parent variety was 28.0.

A two year average yield of seed of the Mennonite variety was 617 pounds at the three stations in western Canada and 1,210 pounds per acre at four stations in eastern Canada. The yield of seed on the high oil strains at Ottawa ranged from as low as 605 pounds to as high as 2,760 pounds of seed per acre.

This information is based upon results obtained from small experimental plots, but progress is now being made by plant breeding further to increase the oil content and at the same time maintain the high seed yields mentioned.

It is understood that seed growers are not likely to be interested in sunflowers as an oil-bearing crop unless these two factors are combined and maintained under field conditions and on a larger scale.

No. 189. --- Mon. April 7, 1941 --- Peat Moss Development

Resources of high grade peat moss that "could supply the American Continent with its requirements for a long time to come" are available in deposits in eastern Canada, states a report by the Bureau of Mines, in which the results of recent investigations in Ontario, Quebec, and the Maritime Provinces are presented. One of the largest deposits, the Eel River bog in Northumberland County, New Brunswick, has been estimated to contain 21,000,000 tons of the material, a tonnage sufficient to supply the current demand of both Canada and the United States for more than 300 years.

Although two modern plants were built in Canada in 1940, it is surprising, the report states, that a greater development has not taken place in the Canadian deposits of peat moss, the two main reasons suggested for this lack of development being the expectation of keen competition from European countries after the war and high freight rates. Owing to the war the importation of peat moss from Europe has ceased and an appreciable market has thus been opened up for Canadian export to the United States as well as for domestic consumption. Prices have been rising and conditions appear favourable for the Canadian industry to capture a market and to become well established before the end of hostilities so as to meet any likely competition from European exporters.

Use of peat moss in the United States has been increasing steadily, the imports into that country in 1938 amounting to 62,000 tons as compared with only 5,000 tons in 1924, and it is felt that this increase is likely to continue with a greater appreciation of the usefulness of the commodity. Most of the deposits in eastern Canada are situated near or on railways and good roads and many of them are within easy access of deep sea harbours. These latter should have an advantage over those in Europe for shipment by all-water route to markets on the Atlantic Coast and the Great Lakes without having to re-load.

Peat moss owes its usefulness to its high absorptive capacity, permanency of composition, and low conductivity of heat. It is an efficient soil conditioner and is used chiefly in horticulture and market gardening. Among its other uses are as a packing for fruit and vegetables; for keeping down the waste of foodstuffs through decay; and as an insulating material in the building trades. Sphagnum peat moss, especially when mixed with fibrous cotton-grass peat specially treated, makes an efficient surgical dressing.

In the investigations which were carried out last year, a total of 91 deposits were examined, the list including 13 bogs in Prince Edward Island, 22 in Nova Scotia, 13 in New Brunswick, 8 in Quebec, and 31 in Ontario. As the territory covered was large, a selection was made of such localities as might offer fair industrial possibilities. The bogs visited in these localities are classified in the report as regards the quality of the peat; whether they yield peat moss or peat fuel, the industrial uses of the peat, and the situation of the deposits as regards proximity to shipping facilities. The report also contains sections of the peat moss trade, the uses and production of peat moss, drainage of bogs, bog operation, and peat moss baling plant.

No. 190. --- Tues. April 8, 1941 --- Birds are Amazing

The annual spring migration of the birds, which usually begins in the middle of February and continues until about the end of May, is one of the amazing phenomena of nature.

The movement of the birds to their ancestral breeding grounds in the spring of the year is accomplished in the face of many hazards, hardships and adverse weather conditions, and the regularity with which familiar birds re-appear, following months of absence in distant regions, is in many cases very marked.

The great distances that some kinds of birds travel on these annual journeys is also amazing. The bobolinks that nest in Canadian fields winter in southern Brazil and neighbouring countries, while the tiny humming birds return each spring from Mexico and Central America.

Another feature of bird migration that arouses wonder and curiosity is the unerring accuracy with which the birds proceed to their destination. Without map or compass, often without previous experience of their route or guidance from companions, many of them fly thousands of miles over mountains, field and sea.

In making these flights some species travel by daylight, but the majority cleave through the air under cover of darkness. Migrants by night include the numerous fly-catchers, vireos, warblers, thrushes, orioles, tanagers, shore-birds and most of the sparrows. Some species of waterfowl under certain circumstances also migrate by night. Among the day migrants are swallows, night-hawks, chinmey

swift, various hawks, and the ducks and geese. The insect eating birds often combine business with pleasure by feeding erratically on the wing. Others lift at once to the habitual altitude of flight and drive forward with unswerving determination to the end of the day's journey. In this case feeding may be done in late afternoon and in the early morning.

No. 191. --- Wed. April 9, 1941 --- Forest Fire Hazard

Forest fires cause Canada an average direct loss of between four and five million dollars a year. In addition are the indirect losses in soil fertility and the damage caused by floods, soil erosion, and the lowering of water levels in streams, all of which are the inevitable results of extreme denudation. Forest fires also destroy the scenic and wild life attractions, which are the principal drawing cards of the tourist industry.

Although forest fires are a constant menace, the late spring is one of the greatest danger periods of the year. The drying winds of late April and early May remove the moisture from the previous year's dead vegetation, leaving it dry and highly inflammable. Not until the June rains and the advent of new green vegetation does this period of fire hazard subside.

Forest protective organizations throughout the Dominion have made good progress in developing efficient methods of detecting and fighting forest fires, but statistics still show that approximately 86 per cent of the fires are caused by human agencies, indicating the necessity of public support to combat this needless destruction of a valuable resource. This year a nation-wide radio contest, designed to interest Canadian boys and girls in forest fire protection, has been arranged in co-operation with the educational and forest authorities of the provinces.

No. 192. --- Thurs. April 10, 1941 --- National Salvage Campaign

Canada has become salvage conscious. The Department of National War Services has launched its National Salvage Campaign.

Hon. J. G. Gardiner has said:

"It might seem that spending public energy on salvage as a war measure, is not a very wise use of such energy. This is not so. Literally millions of dollars worth of raw materials are lying around loose across Canada. Literally millions of dollars of other raw materials are thrown away annually by Canadians. To salvage both these types of raw materials is a very direct contribution to winning the war. We can save scrap to scrap Hitler!"

The National Salvage Campaign has four main objectives: to save raw materials, to raise money for war purposes, to give everybody on the home front a chance to help win the war, and to inspire a spirit of national thrift that may endure even after the war is over.

Discussing the first objective, the Supervisor said:

"Of course, there is no serious shortage of raw materials in Canada at the moment, but there is a considerable importation of raw materials for war

industries. For instance, we import over 10 million of dollars of scrap iron and steel annually, four millions of dollars of rags, a million of waste paper. If we can salvage such waste to supply this domestic market, we can conserve that much foreign exchange."

Campaign officials consider the second objective of the drive important. Money can actually be raised for war purposes through the sale of so-called junk by voluntary workers. Five dollars worth of old aluminium kitchenware rescued from a back shed, and invested in War Savings Certificates, will buy one 40-millimetre anti-aircraft shell, which might bring down a German plane. Eight tons of scrap iron, lying around the fields and sheds of most Canadian farms, will sell for enough to buy a 500-pound bomb for Berlin -- or Berchtesgaden.

The plan of campaign to secure this waste material for war industries and to convert it into ready cash on the way to those industries, is simplicity itself. Voluntary effort is the ~~keynote~~.

Local salvage committees have been, and are being, set up all across the Dominion. Members of Parliament, using the electoral divisions as the salvage areas, co-operated in contacting rural and urban municipal officers and calling conferences of wartime groups, service clubs, and other citizens interested in organizing nationally for salvage purposes.

The top of this pyramid of local committees and salvaging groups is the National Salvage Campaign office, New Supreme Court Building, Ottawa. It is sending out pamphlets and leaflets with suggestions to the local committees. It is advertising to encourage the co-operation of the general public in the drive. It will supply posters and other advertising matter to keep interest high. It will act as a clearing house for specific queries concerning salvage problems.

Campaign officials are anxious to have full coast-to-coast organization complete by the opening date of the campaign, April 14. Citizens are urged to take immediate steps to set up salvage bodies in their community, if such has not yet been done.

Canada is out to "save to win" and Canadians are going to turn waste paper into shell wadding, aluminium pots and pans into airplane propellers, scrap iron into shrapnel, bones into high explosives -- to help smash Hitler!

No. 193. -- Fri. April 11, 1941 -- Nylon

Of the total world production of silk, over 60 per cent is used on this continent, over 80 per cent goes into silk hosiery. Canada's annual bill for this "index of civilization" is \$30,000,000. If Nylon can be used to a considerable extent, a large saving in foreign exchange will be made. It is rather well known that the raw materials used in the production of this plastic are coal, air and water.

Nylon was discovered by W. H. Carothers, a chemist with E.I. du Pont de Nemours and Company, Incorporated, in 1928, during the course of fundamental work on polymerization. The name nylon was coined for the group of long chain polyamides produced by condensation polymerization and characterized by molecular orientation along the axis of cold drawing as shown by characteristic X-ray diffraction patterns.

The high degree of parallel arrangement of long molecules confers great strength on yarns made by extruding nylon polymer and then stretching several hundred percent. The yarn also, has high elasticity and elastic recovery. These properties in addition to the ability to take a set when steam treated makes nylon yarn especially suitable for the manufacture of sheer full-fashioned hosiery since it allows the manufacturer to impart good crimp recovery on which the fabric elasticity of knitted garments depends.

The strength and elasticity offer increased protection against destruction of the knitted fabric by snagging.

Among the textile uses other than hosiery visualized for nylon are important war requirements including nylon parachutes. Other uses include bristles, gut, transparent sheeting, artificial leather, wire coatings, etc.

No. 194. -- Sat. April 12, 1941 -- Good Pasture

Good pasture properly utilized is one of the most important crops on the farm at any time. This summer in view of the urgent necessity for increased milk production to enable Canada to fulfil her quota of cheese shipments to Great Britain the provision for and proper management of pasture takes on increased significance.

Around late July the regular pasture usually begins to fail due to heat and dry weather. This is usually the time to provide proper supplements to the pasture. If the cows go down in milk production it is difficult to get them up again. The ideal supplement is the aftermath growth on an area where an early crop of hay has been taken off.

If aftermath pastures are not likely to be available then provision should be made for supplementary pasture in the form of some annual pasture. This may consist of an area of about one acre for every three acres of the regular pasture, seeding oats alone 3 bushels, or a mixture of oats 2 bushels and Sudan grass 20 lb., or oats 2 bushels and rye 1 bushel, or oats 2 bushels and sweet clover 15 lb., to be sown the last week in May or the first in June. This may be pastured when about 6 inches high leaving the cows in it for an hour or two morning and evening after milking. Later if convenient the cows can have access to the regular and annual pasture at the same time but do not let the annual pasture head out or it will be wasted. Plan for complete utilization of both the regular and annual pasture provided.

If neither aftermath or annual pastures are provided then grain feeding may be necessary if production is to be kept up during the dry period. In the early part of the season a mixture of ground oats and barley will be sufficient but later in the season add a little protein-rich concentrate such as oilcake or soybean meal. Grain feeding will be expensive and should be avoided by planning for fresh pasture supplements.

For a later fall supplement sow some corn fairly thickly in an area where it can be cut and thrown over to the cows with the least possible labour. It is good business to plan to supply the cows with a continuous ration of fresh, green pasture and keep up the milk production throughout the whole pasture season.

No. 195. -- Sun. April 13, 1941 -- The Scottish Shepherd

Sirdar Ikbali Ali Shah, (the well-known Moslem author) writes as follows, for reproduction in our Fact a Day:

Against the harsh background of the Scottish mountain side, the herds stand out - slowly moving shapes upon a field of grey. From the Border Hills to the uplands of Inverness stretch many a league of sheep country, for Scotland was a wool-bearing region long before the tapestries of Arras and the Low Countries were woven from Scottish fleeces.

The rule of Mars has so contrived things that in these strenuous months of war only old men and young lads can "mind" the folds and keep watch over the sheep-paths.

That, indeed, has always been the manner of it since the beginning. The story of Scotland is full of illustrious names of men who began life as herd laddies, commencing with St. Cuthbert and not ending with James Hogg - saints, poets, creative spirits in literature, mystics, scientists.

In these wild days, the job, always a lonely one, is rendered even more so by the dislocation of traffic, by lack of winter fodder, and the recent inclemency of the weather, which can be ferocious at times in the Scottish hills.

In the snow-banks and wreaths the shepherd must search for the newly dropped lambs now appearing in ones, twos and even threes -- for triplets are by no means uncommon - and he must carry them sometimes across a mile or more of heavy, untrodden snow to shelter, where they can be fed from the nozzled milk-bottle.

It is a task for a gentle spirit, and most shepherds are in fact gentle men. But on occasion they can reveal the old warrior sentiment of the Scot. As

As the flocks are being thinned out by those who keep watch and tally over the nation's food-supply, this means a weary moorland tramp for the shepherd in the short hours betwixt dawn and dusk.

The work of selection is difficult and the choice of beasts for slaughter often entails long consultations in a biting wind. In order that the flocks of the future may not be sacrificed to immediate needs, the most fertile ewes of good type must be preserved, nor may the local tweed industry be threatened with extinction by the entire loss of that native wool **from** which its choicest webs are woven.

I heard the story of a shepherd in Berwickshire who watched a dog-fight between a heinkel **bomber** and a British Spitfire.

A hail of dropping tracer-bullets fell about his ears and drove him at last to seek the shelter of a drystone dyke which parcelled two adjoining stretches of sheep-walk.

Again and again, he told me in his own broad "Doric", the Spitfire attacked the Nazi bomber, discharging its lethal bursts of machine-gun fire, until at last the Heinkel whirled wildly like a wounded fulmar and then planed swiftly downwards to where a level race ~~of~~ heath-clad moorland lay between shaw and brae-side.

From the bowels of the stricken bomber emerged a trio of crop-headed Teutons, looking as sheepish as Jeems' own ewes, one holding an arm which dripped scarlet.

As the youngster approached them they gave the Nazi salute, and enquired in passable English as to where they were.

"And, maister," laughed the herd lad, "wud ye believe it, they didna jaloose whit I said. They askit me what tongue I wis speaking, and when I tellt them it was the Lallan Scots they juist gied their croppit heids a shake".

But if the Nazis could not understand Jeems, Jeems could comprehend them after a fashion.

He guided them across a mile and "a bittock" of moorland to a spot on the highway where stood a road-man's cottage where the guidwife regaled them with tea and bannocks -- for even the sharpest racial enmity cannot quench the traditional sense of hospitality in the moorland heart.

"They were great muckle Sumpshs," Jeems told me. "Stuffy lads, ye ken, but chaps like that'll no' win the war. Awfie sma' herts they seemed to hae, and they kept on askin' me if they wad be shot. When I told them oor way wisna their way and we didna murder folk in cauld blood they seemed awfie relieved."

Then there was the brace of escaped prisoners Jeems helped to track down. They were so weak with cold and hunger that he and his mate of the next sheep-walk "drave" them to the nearest police-station as though they had been a couple of their own half-grown lambs.

So the Scottish herdsman must watch the sky as well as the land, must keep a keen look-out for Nazi wings as well as for fleeces and snowbound ewes and "gimmers".

No. 196. -- Mon. April 14, 1941 -- The Children Can Help

"Mother, what can we do to help win the war?" That is the question the boys and girls across the Dominion are asking their parents. The National Salvage Office has just informed your enquiring reporter that there are several answers to the question.

One answer has come from Winnipeg, where Shriners co-operated with Winnipeg children in collecting eleven and a half tons of rags. Another answer came from Sydney Mines, Nova Scotia, where the manager of a small theatre helped Maritime boys and girls collect 1,500 pieces of aluminium salvage for war industry. Still another answer has come from Vienna, Ont., where a school principal organized his boys into salvage units. During the first five weeks of their operations, the boys accumulated and sold \$150 worth of salvage.

The plan of the Winnipeg Shriners and the manager of the Sydney Mines theatre was similar. In each case there was amusement suited to juvenile needs, the price of admission to which was an item of salvage.

The Winnipeg Shriners gave a day of their annual circus to Winnipeg boys and girls, asking a minimum of two pounds of rags for admission. Nine thousand

children brought 23,000 pounds of secondary textiles. The rags, which sold for \$495, found their way to war industries in the form of wipers. The money was donated by the Shriners to war charities.

The Sydney Mines theatre, using the same idea, asked a discarded piece of aluminum kitchenware as the price of admission to a rip-snorting juvenile show. Fifteen hundred Sydney Mines boys and girls co-operated. The money from the sale of the salvage went to the Spitfire fund, and the metal went to war industry.

What has so successfully been done in Winnipeg and Sydney Mines could very easily be done in all the cities and towns of Canada. It would have a four-fold effect. It would make the boys and girls feel they are taking an active part in helping Canada win the war. It would help to secure certain types of raw materials which are so urgently needed in our war effort and which had to be imported last year. It would raise money which could be effectively used in the war effort. And it would give the children a treat.

There is need to see that every precaution is taken to ensure that the enthusiasms of the boys and girls are kept in order. The effort necessary for children to gather up salvage around their homes is a challenge to them. By accepting that challenge they can help to win the war. But care must be taken to prevent accidents among large groups of excited children. It can be done, of course, when a sufficient number of ushers are used.

A quite different method of employing the energy of Canadian boys in war salvaging has come from Vienna, Ontario. The Vienna idea divided the 42 boys of the school into three corps, representing the Air Force, the Army, the Navy. Each corps has its own Air Marshall, General, Admiral. Salvage is collected on a competitive basis. The basis of the competition is simple.

Various items of salvage are given points of value. A boy who collects a pound of scrap steel gains 100 points for his corps. An old automobile tire is worth 5,000 points. A scrap storage battery or a copper wash boiler is worth 40,000 points.

In this way there is a means of recording the efforts of the boys. The three corps in the school work on a strictly competitive basis, each one trying to outdo the other.

Vienna, with its population of 200, leads the way. It expects to carry on during the holidays, reclaiming waste and preventing waste.

Collecting salvage by the voluntary effort of school boys has a unique angle. The boys, by their very vigor and youthful enterprise, are able to get salvage not ordinarily available to adult salvage groups. If the Vienna plan is copied across Canada, school boys should be able to bring many tons of material to the war industries, and raise hundreds of dollars for war purposes.

No. 197. -- Tues. April 15, 1941 -- Supplementary Fodder Crops

The increasing demand for dairy products in our war effort provides an opportunity for farmers to increase both acreage and variety of fodder crops. Live stock that have been housed during the long winter months require large amounts of good quality roughage in order to maintain maximum production in both milk and beef.

The Department of Agriculture sends along some valuable notes in this connection.

Fodder crops as grown on most Western Canadian farms may be divided into two groups - hay and sheaf feed, and corn. The chief hay crops are Brome, Crested Wheat Grass, and native grasses. Corn is the main crop grown for ensilage. Some of the annuals are worthy of being grown, both as fodder and ensilage crops. Corn is rapidly gaining in popularity both as a sheaf feed and ensilage, and is possibly the most important fodder crop other than hay.

A few of the more important fodder crops that might be grown to good advantage to supplement the meagre few now being fed are Sorghums, Millet, Sudan Grass, Legumes, Soybean Hay, and Sugar Beet (tops).

Amber Cane Sorghum is particularly well adapted to certain sections of Western Canada. It is grown, harvested, and stored similarly to corn. It can be fed from the sheaf, or ensiled and later fed as ensilage. Feeding experiments conducted at the Dominion Experimental Station, Morden, show this silage as being palatable, nutritious, and highly satisfactory when compared with corn.

Milletts are fast growing and may be used to advantage, especially if the crop of grass or clover, seeded the previous spring, has been lost due to drought or grasshoppers. Millet varieties may now be obtained which are especially valuable for fodder production. The feeding value of millet is somewhat inferior to that of the standard grasses.

Sudan Grass provides an important source of fodder for cattle. It can be seeded in June and is ready for hay making in August. It may be cut with the binder and stooked until cured.

Alfalfa is conspicuous by its absence on far too many farms. At the Morden Experimental Station it grows like a weed. On account of its high nutritional value it should comprise the main fodder on all stock farms. It thrives for years, producing generally two crops a year.

Where no legume fodder is grown, oats and peas make a fine combination and produce heavy stands of high quality fodder. Now that rust-resistant oats are available, this mixture can be seeded in June, and provides a heavy yield of roughage that is especially suited to most kinds of live stock.

In areas where sugar beets are grown, care should be exercised to assure that the tops are saved for winter feeding. This type of feed is valuable for carrying stock through the winter, and materially saves on other fodder.

Soybean Hay is classed as a legume and is, therefore, a valuable stock feed. In areas where soybeans may be successfully grown, attention should be given this crop as a source of fodder to supply variety to roughage.

No. 198. -- Wed. April 16, 1941 -- First Ministry of Health

To New Brunswick belongs the distinction of establishing the first Ministry of Health in the British Empire. In commemoration of this nationally important event, which has contributed so much to the happiness and strength of the province, a monument was erected in 1939 on Parliament Square in Fredericton, N.B., on the advice of the Historic Sites and Monuments Board of Canada.

The first Minister of Health in the British Empire was Dr. W. F. Roberts, a native of Saint John, who was elected to the provincial legislature in 1917 and became a pioneer in public health service work. The Great War had revealed the pressing need for measures which would bring about a higher standard of physical and mental well-being among the people, and on assuming public office Dr. Roberts immediately advocated the setting up of a central provincial authority under which could be co-ordinated medical services in all communities. He sponsored in the provincial legislature of 1918 a Health Act embodying his reforms and upon the establishment of a Ministry of Health he was chosen Minister.

In this capacity Dr. Roberts worked untiringly to improve public health in his province. A provincial laboratory of wide range was set up under a highly trained scientist, and depots were established where serums, vaccines, and necessities for emergencies could be obtained free of charge by physicians. Regulations regarding pasteurization of milk, handling of bread and other foodstuffs were put into effect, and **pre**-natal, pre-school, tuberculosis, and other clinics were established.

No1 199.--- Thurs. April 17, 1941 -- Unemployment Insurance - 1.

Interest in unemployment insurance is general. The following statement by Hon. Norman McLarty on the subject will be informative:

In June of last year, the Federal Government obtained the approval of every **Province** in Canada to an amendment to the British North America Act, permitting an Unemployment Insurance Act to be written into the social and economic structure of this country.

That was done and, by August, Canada had followed the example of other countries where great industries have developed, and had passed such an Unemployment Insurance Act.

Now, and because the operation of an Unemployment Insurance Plan at this time would be a direct contribution to our "Trial by Battle", it is intended to start collecting contributions and putting the Act into full operation on July 1st.

This plan of insurance, which was examined in detail by Parliament last year and very widely approved, is designed to fit the unique features of the industrial and social structure of Canada. The experience of other countries in this field of social insurance legislation has been carefully studied and it is believed many mistakes have thereby been avoided.

In Canada, Unemployment Insurance is to be administered by a Commission representing the three parties who contribute to the Fund: workers, their employers and the State. Each of these three will pay into a Fund for the Benefit of the worker who becomes unemployed.

When the Unemployment Insurance Commission was created last September, the late Dr. Sirois was chosen as Chief Commissioner but, owing to his ill health, it was necessary to arrange for a man to carry on in his place. Some months earlier Mr. Arthur MacNamara had been brought from Manitoba, where he had been Deputy Minister of Public Works, to reorganize the Dependents' Allowance Branch of the National Defence Department, and he was induced to undertake the new work

as Acting Chief Commissioner. With him, representing the workers of this country, is Mr. R. J. Tallon, well known for his work in protecting the interest of the worker. Mr. Allan M. Mitchell of Montreal, the third Commissioner, represents those enlightened employers of Canada who see in Unemployment Insurance a true contribution to industrial peace and good will.

In the last few months, this Commission has been working at great pressure and with great ability under difficulties, to make it possible to start operating the plan on July 1st. This will be an outstanding achievement, as in other countries it has always taken a matter of years to set up the machinery to administer such a scheme. In fact this early start is only made possible through the co-operation of the Post Office and other Government departments.

This Commission will spread a cloak of protection over some two and one-half million workers in Canada who, with their dependents, will total nearly half the population of the country.

In the course of the next few weeks, it will start the distribution of insurance books to every employer in an insured industry: one for each of his employees who comes within the terms of the Act. For instance, there will be about one million books distributed in each of the Cities of Montreal and Toronto; and some idea may be had of the magnitude of the task by the statement that across the whole country the issue of books will weigh about seventy tons. No less than three million books are being printed for the first year's supply and in a few weeks these will be distributed through about fifty depots set up in Post Offices across the country. The front page of the insurance book, which employers will fill in, will show details such as age, occupation and industry of each of the persons working for them. This will be the means by which every insured worker in the country will be registered and given a number, which he will retain throughout his years of employment.

Contributions to the Unemployment Insurance fund will be made by means of special stamps purchased through the Post Offices and placed in the worker's insurance book. The worker's contribution ranging from twelve to thirty-six cents a week, depending on his earnings, will be deducted from his wages by his employer and with the employer's contribution will make up the value of the stamp which is put into the book. The total number of stamps required for the first year will be some eighty-nine million.

No. 200. -- Fri. April 18, 1941 -- Unemployment Insurance - 2.

The amount of benefit an unemployed worker receives and the length of time he receives it is strictly related to the amounts and length of time he himself contributed while he was employed. For example, if a married man was fully employed at twenty-five dollars a week for five years and then became unemployed for a long period he would receive twelve dollars a week for a limit of one year.

During this period of unemployment the nation-wide Employment Service -- a development of the existing Provincial Employment Services -- would be endeavouring to find him employment either in his usual occupation or in some other suitable occupation at his normal standard of living.

This Employment Service will operate in every large community in Canada and will charge no fees to any employer or worker who desires to use it.

For the employer it will offer the best and widest field in which to find just the type of man or woman he requires to fill some special post.

For the worker it will offer free contact with employers who have vacancies to fill.

For war industries operating at high pressure, it will be the quickest and most logical place to look for the men they need. At this time of crisis, such a service is vital to our efficiency.

Because of administrative difficulties, the experience of other countries has shown that it is unwise to insure some types of employment in the early years of operation. For example, agriculture and fishing by their very nature do not operate in places where collections can be easily made or benefits administered through a City Employment Exchange. These occupations, and others like forestry and trapping, are, therefore, among those not insured.

Professional people like doctors, lawyers, and dentists, and people earning over two thousand dollars in a year, are also excluded although all these excluded classes will benefit indirectly from the payment of insurance benefits to the unemployed workers in their community. Even with these exclusions, something like eighty per cent of the wage-earners of the country will be required to contribute to the insurance fund and will be able to draw from it on fulfilment of certain minimum requirements.

While nobody doubts that many of our serious economic problems in the last ten years have been caused by unemployment, or the fear of unemployment, it might be said that the relief of distress caused by unemployment is not the most pressing problem facing Canada at this time - that we are in the middle of the greatest war that this country has ever experienced and that we can think of these problems later - after Hitler has wished he had suddenly become sane and flown to Scotland with his friend, Hess.

Perhaps if we had all been willing to think of war in time of peace, it might have been possible to have kept the regimented barbarity of the Nazi hordes from laying waste the civilized lands of the continent of Europe. Let it not be said that in time of war we did not plan for peace and that we so far forgot the debt we owe to the skill of the worker and the tireless efforts of those who plan for this victory, that they were left to drift alone on the turbulent waters of readjustment after the victory had been won. An "all-out" War Effort demands changes in the industrial structure that will have permanent effects on the economic life of the country. As Mr. Menzies, the Prime Minister of Australia, said recently, "If we win this war - and we certainly mean to - we shall take years to recover from the strain ... and there will be burdens which will bow our shoulders for a generation to come."

In the meantime, we have created industries that are designed solely for war purposes. Agricultural workers have become builders of aeroplane engines; stenographers are making munitions; industry has developed new materials and techniques and trained its workers in new skills, and the armed forces themselves have drawn to their ranks much of the brain and muscle that has built Canada's peace-time prosperity. The days of readjustment will bring new and intricate problems beyond the experience of any man.

No. 201. -- Sat. April 19, 1941 -- Unemployment Insurance - 3.

Unemployment Insurance will give those who contribute a chance to catch their breath after their strenuous labours, and enable them to pause for a while during the period of readjustment without the fear of want and distress hanging over their heads. Their spending of their insurance benefits will help to sustain the purchasing power of the great consuming public, while merchants adapt themselves to new conditions. As far back as 1919, a Royal Commission of Canada recommended the study of Unemployment Insurance as a means of protection for workers during the period of the country's rapidly changing economic structure.

During the last war, and again during this war, Great Britain has seen the value of extending the scope of protection afforded by Unemployment Insurance and in the battered homes of Britain, workers are finding their insurance benefits of tremendous value, both to their pockets and their peace of mind.

As my colleague, Mr. Ilesley, has pointed out on more than one occasion, Unemployment Insurance will make a direct contribution to the War Effort, even now. Contributions from workers and their employers will total about one million dollars a week. This will be held in trust by the Government for the Unemployment Insurance Commission, to be invested in Victory Loans and other similar Government bonds, until it will be needed. To the tax-payer, this means that just one million dollars a week less has to be raised by the Minister of Finance by other means while the demands on the fund are few.

Collections will begin on July 1st, when this important contribution to social welfare will be launched.

While collections will begin on July 1st, it should be borne in mind that benefits do not become payable in any case until contributions have been made for not less than 180 days within the two years immediately preceding the date on which need for benefit develops. It will be understood, therefore, that no benefits will become payable until approximately seven months have elapsed during which contributions have been made.

Of course, at this time it is impossible to predict the number of benefit cheques which will be issued once benefit rights have been established. Based on the experience of the United States during recent months, an approximation of the number of benefits which might become payable has been set up by one of our accountants. His guess is that the number of benefit cheques which will be issued each working day will not be less than fifteen thousand, or in the neighbourhood of three and a half million cheques a year.

I simply mention the volume of cheques which will probably be required to give an appreciation of the magnitude of the task which is being undertaken.

Today, in Britain, the bombed-out worker and the Government have found in their social legislation, a source of their high courage and morale.

Canadians have already expressed their approval of the Unemployment Insurance Act here, both as a war measure and as a plan for peace.

I ask for the utmost co-operation of workers and their employers in launching this scheme and know that I can count upon it.

No. 202. -- Sun April 20, 1941 -- A Danger in P.E.I.

While it is true that nature is forever washing away and moving parts of the thin earth covering that we call soil, she has also, through the centuries and ages, gradually built up over vast areas, a productive surface soil that has been responsible for the subsistence of the human race ever since it appeared on the earth.

One of the most wasteful farm practices that is common throughout every district of Prince Edward Island, says an official report, is that of making the rows of cultivated crops run directly up and down the slope of the fields. This method does not have anything to commend it. It is actually the hard way for man and beast and has caused an ever increasing amount of waste of the most valuable soil particles which contain most of the fertility in our soils, by helping the rains and melting snow to carry them away. In recent years, the increased area devoted to such cash crops as potatoes and turnips, has rapidly speeded up soil erosion in Prince Edward Island.

Dr. H. H. Bennett, Chief, Soil Conservation Service, Department of Agriculture, Washington, D.C., in a recent article "Thirty Years of Vertical Farming", tells something of what has happened in the Aroostook potato district of Maine. He refers particularly to the 220,000 acres of ideal potato soil known as Caribou loam. Thirty years ago, he surveyed the area. The top soil was then mellow and dark in colour. Last year, after examining it again, he states: "I hadn't counted on any such prodigious change in the soil as I actually found -- change caused by erosion." He states later in the article: "One thing that hadn't changed was the direction of the potato rows. Most of them, except on farms that had co-operated in the Soil Conservation Service demonstration project, still ran straight down the hill." He refers to a field that 32 years ago had a combined soil and subsoil depth of at least two feet: "In which the average depth of the subsoil -- the original soil is all gone -- is less than 12 inches today". -- "In other words, more than a foot of soil and subsoil, amounting to 32,000,000 pounds per acre, had been unnecessarily wasted in this field."

After visiting some of these fields in company with soil conservation agents of the U. S. Department of Agriculture, convincing evidence was seen to indicate that Prince Edward Island soils with rows down the slopes, are wasting soil fertility more rapidly than has occurred in Maine. Their soils have great quantities of small, hard stones and gravel that soon line the sides and bottom of rivulets and gullies as the soil washes away, producing a natural protection. Very few of the P.E.I. fields have any hard stones or gravel so that gullies cut deep and wide.

No. 203. -- Mon. April 21, 1941 -- The Bishop's Fable

Proposing the toast of "Chemistry" at a dinner held in Birmingham, England, the Lord Bishop of the Diocese related an ingenious fable, reported as follows by the Birmingham Post:

About the middle of the third millenium of what was still called the Christian era -- that is to say about 2500 A.D. -- intelligent beings from Jupiter landed on this planet. You will say that surely beings from the nearer planets, Venus and Mars, reached us first. It was not so. On Venus pre-occupation with sex had caused depopulation resulting from a disastrous fall

in the birthrate, while the Martians by reason of improvements in their weapons of war had practically exterminated one another. Our first interplanetary visitors came from Jupiter.

They appeared, by chance, in the vicinity of Birmingham at a time when another great European war had just been fought, by the aid of the latest discoveries of chemical science. The object of the war I need hardly say was to establish freedom, justice and truth and to make the world safe for democracy. Equally there is no need to say our visitors from Jupiter found a hideous desolation. Chemistry had produced superb explosives. Its poison gases had achieved a magnificent thoroughness which made the primitive efforts of the early twentieth century seem pitiful; and though the substitute foods of the chemists did not quite equal those which Nature gave to generations when democracy was less highly valued, none the less the corpses were those of citizens emaciated rather than starved.

The visitors sought long for an untouched dwelling where they might discover unharmed representatives of European civilization. To their joy, in a remote district of that prosperous suburb of Solihull, an undamaged house was found. The man in it was busy. He had in his hand an indelible pencil, latest product of chemical research, as different from the thing which for us makes bluish smudges as a machine gun is from an arquebus. With this pencil in his hand he was poring over a sheet of paper, paper fashioned by chemists of the time from all-too-prolific nettles, all trees having been used up for wood-pulp some two generations earlier.

Eager to understand the civilization of which a perfect fragment seemed by a happy chance to have been preserved, the visitors asked the man what he was doing. He explained that as a psychological relief from the war, he was filling up a football coupon. They then asked where his wife was. He pointed to the ceiling and said that she, by the help of cosmetic chemistry, was, and here I quote his exact words, 'dolling herself up as a synthetic blonde.'

Gentlemen, is my satire too savage? You representatives of the chemists of the world have discovered Pandora's box. It is full of treasures. In amazing profusion you are constantly creating new substances for the use and enjoyment of mankind. New products of immense value and of constantly extending range come from your laboratories and factories. Your new dress materials and the never-ending series of dyes which colour them are a fascinating delight to at least one-half of humanity. No dictator's influence has ever spread as rapidly as rayon; and rayon is soon to be made obsolete by a new product of chemical science. Your fertilizers make nature astonishingly productive. When your new plastics are applied to the various utensils of humanity, even one of the most obstinate of human anxieties -- breakages in the kitchen -- will disappear.

You chemists, in fact, belong to that group of scientific men who ought to be pioneers of the golden age, and should, in fact, bring in that age but for human wickedness and folly. In very truth leaders in the applied sciences of chemistry, engineering, and electricity deserve our unstinted gratitude. But great discoveries are bent to evil uses. Genius demanding our homage is frustrated, and one asks, 'When will men turn to sanity and peace?' I do not know. But hopefully -- and in the old fable hope alone remained in Pandora's box -- hopefully we must look through the mists to a brighter, though possibly remote, future."

No. 204. -- Tues. April 22, 1941 -- Vikings Train in Canada

Thousands of miles from their shackled homeland, a band of blonde and adventurous youngsters are setting up an ominous thunder in Canadian skies. Except for saying that they are Norwegians of whom the Vikings of old would have been proud, this article must leave them nameless, because to reveal their identities would be to open the way for the Naxis' favourite weapon of revenge. Some day, when the bonds have been severed and the Gestapo has released forever its grip on their friends and families, they will receive their share of the glory.

Some of them came to Canada direct in fishing craft so small and flimsy that the gods who rule the weather and the seas must have been moved to kindly moods by their very audacity and bravery. Some sailed past the U-boats and through the mine fields and under the German air patrols to England and thence to Canada. Others came by a way so long and hard that books could be written about it were it not a secret route that they do not care to publicize too widely.

Today, in a plot of land on the lake-front in the shade of Toronto's skyscrapers, these men toast King Haakon and each day raise the flag of their nation beside that of the British Empire. The sign across the arched entrance of this plot of ground reads "Lille Norge". Translated, it means "Little Norway", and the camp is well named.

Inside the huts may be seen the neatness and colour associated with this clean and industrious people. Winter scenes of blue and white and red hang upon the walls of their dining rooms. In the officers' mess, over the door that looks out upon the lake, hangs the Coat of Arms of Norway, with its braids of gold and its background of velvet. Many times, as you watch these young warriors lounging in their chairs or moving about the room, you see them lift their eyes toward it and something in their glances assures you that some day it will hang in its rightful place again.

And those who doubt the ability of these Norse hedge-hoppers may check with Wendell Willkie. During his recent trip to Toronto, the famous American accepted an invitation to visit Little Norway. Having been waiting months for a good excuse to break loose, the Norwegians decided to put on a little show in Willkie's honour. The memory of it still moves veteran pilots around Toronto's Island Airport to chew their fingernails and blanch.

From all reports, it seems the Norsemen did everything but fly their planes in and out the windows of the surrounding office buildings. A radio announcer, describing the show, hung on to his hat and started searching for words. Willkie and the official party stood with eyes glued to the sky. It is said that even the sea gulls stayed grounded until the last Norwegian whistled in to a landing.

A number of Little Norway's flying personnel were members of the Norwegian Air Force before the German invasion. Many of these officers fought a hopeless battle in the sky against clouds of Heinkels and Messerschmitts. At least one stole a machine right from under the noses of the Germans and roared off like a hurricane from hell straight to England. The difficulties of landing a German machine in England without getting your breeches full of bullets may well be imagined, but he did it.

The number now under training is, of course, secret. Actually, there

exists in Canada today a Norwegian air force much larger than the one that tried to fight off the German sky-raiders during the country's invasion. It is composed of two branches, the Royal Norwegian Air Force and the Royal Norwegian Naval Air Force. During the winter, the naval branch took its seaplanes off to Vancouver in order to operate them from the waters of the Pacific. With the arrival of summer they will return to Toronto's combined land and water airport.

No. 205. 9- Wed. April 23, 1941 -- Eggs for Britain

Indications are that Great Britain will require an increasingly large supply of eggs from Canada during the third year of the war. The Dominion Department of Agriculture believes it is now too late to prepare for this demand through the purchase of baby chicks, but a great deal can be done by a careful selection and carrying over of all available laying stock. There is a noticeable tendency at the present time on the part of poultry producers to reduce laying flocks, the marketing of fowl being quite heavy during the first two weeks in June.

While systematic culling is desirable at all times, the present situation would not appear to warrant heavy reductions. There has been no break in the price of eggs and all indications point to a particularly strong egg market during the summer and fall of this year.

While it is true that a great many yearlings were kept over last fall and in the ordinary course of events now is the time when two year olds, and birds that have completed their lay, should go to market. Poultry producers, however, would be well advised to look over their yearling stock carefully and to retain for laying purposes all birds which are physically fit and in such condition as to insure a maximum egg production during the next twelve months.

Every back-yard that will accommodate a few hens will be a valuable asset, and readers of the Fact a Day who help in this way to raise eggs will be making a valuable contribution to the War Effort.

No. 206. -- Thurs. April 24, 1941 -- Caring for Eggs

Following what was said yesterday about the raising of eggs, here are some important notes about caring for the eggs:

When eggs are being gathered the thought of how far they will have to travel may not necessarily occur to the person gathering them. It may be just a few yards for consumption on the farm; it may be a few miles to the nearest market, or it may be thousands of miles to Britain. No matter where they may be used it is a certainty that the consumer prefers the best quality. Most eggs are of good quality when they are laid and it depends upon how they are handled whether or not they retain their prime condition.

Canadian research scientists say that heat is the chief enemy of quality in eggs. Consequently, they recommend cooling the eggs as quickly as possible and keeping them cool all the time, on the farm, in the grading station, and in transit. With the advent of warmer weather it will be more difficult to keep the original fresh-laid quality. It will mean gathering the eggs two or three times a day and

giving them a chance to cool before they are packed and taken to market.

When an egg is laid it is at the body temperature of the hen, about 105 degrees. Tests have shown that the sooner the natural heat leaves the eggs the better they will keep. That is why it is recommended to place the eggs in a cellar or cool room. If the eggs are packed at once it will take almost 24 hours for the eggs in the centre of the crate to cool to below 68 degrees, even if the temperature of the room is at 50 degrees. Eggs in the centre of a tightly packed pail will take almost 10 hours to cool. They need about half that time to cool in a wire basket, and only three hours if placed on wire trays. Thus, even under the best conditions it will take several hours to bring the eggs to the proper temperature, that is, under 68 degrees.

No. 207. -- Fri. April 25, 1941 -- Talc

Dating back to 1886, the mining of talc in Canada first attained prominence in 1906, when active development of the talc deposits in the Madoc district of Ontario was commenced. The deposits of this district constitute the only known Canadian occurrences of fine white talc and from them has been produced probably well over 90 per cent of the entire Canadian production of the mineral. In recent years output in the Madoc area has been about equally divided between the Henderson and Conley mines. Unexcelled for its colour, talc from the area is marketed largely in the United States. Almost all of the cut soapstone produced in Canada has come from deposits in the Thetford area, Quebec, where a small but steady output has been maintained since 1922.

With a range of industrial usefulness surpassed by few other minerals, talc is employed chiefly in the paint, paper, ceramic, rubber, and roofing industries, a feature of recent years being the steady increase in the use of the mineral in the ceramic industry.

Although its percentage of the total world output is relatively small, Canada is seventh on the list of talc producing countries, and is the chief Empire source of supply to the United Kingdom. Most of the Canadian production, however, is marketed in the United States for use chiefly in the textile and cosmetic industries.

Production and trade statistics reveal a close annual uniformity during recent years, both in tonnage and value, in the production, exports and imports totals. This, it is stated, tends to indicate a saturation point in the present available domestic markets for Canadian talc, with the consuming industries well supplied. Since the commencement of the war, however, there has been a steady expansion in the export trade.

No. 208. -- Sat. April 26, 1941 -- Magnetic Mines

Magnetic mines are laid on the sea bottom, and are only effective if ships passing over them are inside the danger area of the explosion. They are useless in depths of 300 feet or more, and are thus complementary to the ordinary moored mines floating beneath the surface and designed to fire on a ship striking them. The development and laying of magnetic mines forced Britain to provide

special methods of clearance over and above the ordinary sweeping or moored mines.

As regards the antidote, much has recently been heard of "de-gaussing" belts fitted to ships of all types from trawlers to battleships, for the purpose of neutralizing their magnetism and so rendering them immune from magnetic mines. Dr. Gauss, one believes, was a Scandinavian professor who died in the middle of the 19th century; but gave his name to the unit of magnetic flux, just as the names of Ohm and Ampere are now used in the technical language of electricity.

The "de-gaussing" belt or girdle, or "D.G." equipment, as it is now called, consists of a number of strands of ordinary insulated cable passing round the ship about the level of the upper deck, and energised in a special way by an electrical current. It neutralises the permanent magnetism of the vessel, so that she is able to pass over a magnetic mine without deflecting the needle and firing the charge.

Total immunity against mines, magnetic or otherwise, can never be guaranteed. However, no ship fitted with the new gear has yet been damaged, while an officer responsible for its development expressed himself as being prepared to take a "de-gaussed" ship over any number of magnetic minefields.

It should be added that the apparatus which was suggested by the officers of one of His Majesty's Naval Establishments, with the able advice and assistance of civilian scientists, was developed in less than three months from the time the need for it became apparent.

No. 209. ---, Sun. April 27, 1941 --- A New Pest in Canada

Heree is something new in pests. It is the Pacific Mite. The Pacific mite was first found in British Columbia in 1939, when it was identified from Grand Forks and Oliver. In 1940 it became more widely disseminated in the Oliver district and an infestation was also discovered at Kaleden. This mite feeds upon all kinds of fruit trees grown in British Columbia, as well as upon a wide variety of weeds and other herbaceous plants, including the usual cover crops. Among fruit trees, apples are most severely attacked, Delicious being most susceptible.

The adult females winter beneath soil refuse, in cracks in the soil or beneath suitable protection on tree trunks. The overwintering forms, bright orange yellow in colour, are usually first seen in late July when moving down the tree to suitable winter quarters. These mites often congregate in immense numbers in crotches or on rough bark. Frequently, they collect in the calyx cups of the apples and by the profuse webbing that they spin as they move about, produce what is popularly known as "cellophane" beneath which they shelter in conspicuous yellow clumps.

In spring, these female mites begin to emerge from their winter quarters about the time apple buds are bursting and may continue to emerge for a month or more. A day or two subsequent to feeding, the overwintered female mites lose their yellow colour and very shortly begin to lay minute round translucent eggs. It is difficult to detect the summer form of the Pacific mite on foliage because of its inconspicuous colouration and very small size. An infestation in mid-summer is most readily discovered by the devitalized brownish condition of the foliage and by the presence of the fine but profuse webbing spun upon it by the mites.

The Pacific mite is carried by wind for long distances and it is probable that this is the principal means of dispersal. Until last year it was believed that control of the overwintered individuals was necessary if extensive summer increase of the mites was to be avoided. It has now been determined, however, that a special delayed dormant application of lime-sulphur for this purpose does not give results commensurate with cost of material and difficulty of application. Perhaps the chief reason for this conclusion is that the migration of mites from winter quarters to unfolding leaves goes on for several weeks after the delayed dormant period, hence a spray application at that time fails to kill a large proportion of the mites. Additional sprays are then required.

No. 210. -- Mon. April 28, 1941 -- Stern Realities

The Prime Minister of Canada said today:

"What have for long been ominous probabilities, are, now, upon us as stern realities. The area of conflict widens every day; its intensity increases every day; losses on sea, in the air and on land will continue to mount; the scenes of terror and destruction which live in the memories of many lands free, beleaguered and invaded, will be repeated and renewed. In steadiness of heart, of hand and of vision we shall find our present strength and the path to victory. If we are depressed by the picture of to-day or to-morrow, we shall be unworthy of our allies and ourselves. Wars of endurance are not lost by the accidents of a day, or a week or a month. They are lost only by the steady disintegration of the moral fibre of a people. The stuff of which the peoples of the British commonwealth are made is not that kind of fibre. Let us, therefore, calmly and confidently continue to look at the facts steadily and as a whole, not bowed down by the failure of to-day, not unduly elated by the success of to-morrow.

"Let me say that from now on as never before it is of the utmost importance that we should view the whole struggle in perspective, and seek to preserve a true sense of proportion. We must be prepared for the extension of fighting over wide and wider areas, for a rapidity of movement at times, and in other places, not unlike what we have already witnessed in the Balkan campaign; and for and intensity and ferocity of warfare resulting in terrific destruction and in heavy losses of human life. Regardless of where the conflict may spread or how rapid may be the movement of forces, or how intensive and destructive the struggle may become in other parts of the world, we must keep ever in our mind the truth that so long as Britain stands no reverse will be decisive.

"Britain is fighting with every ounce of her strength, every fibre of her being. We, in Canada, will strive more earnestly than ever to do our utmost on sea, in the air and on land; to work to produce, to manufacture, as we have never worked and produced or manufactured before. The news received yesterday of the landing in Britain of further contingents of Canadian troops, and airmen trained in the great commonwealth plan, should increase our confidence in the ability of Canada to help effectively in the decisive struggle. For the world it is renewed evidence of Canada's determination to spare neither her material resources nor her manhood in the battle for the world's freedom." - House of Commons, April 28, 1941.

No. 211. -- Tues. April 29, 1941 -- Weed Control

Weeds are a menace to the nation in peace time, but in war time they are an immediate danger. They deprive the producer of the produce that should come from the land. Think over the question of weed control, and see what you can do in these days of battle.

Perennial weeds, a menace on most farms, are reproduced by underground rootstalks as well as from seeds. There is a vast difference in the ability of the various species of perennial weeds to withstand eradication treatments.

It is an easy matter to destroy the root system of a shallow rooted plant like ox-eye daisy or orange hawkweed, but it is extremely difficult to eradicate field bindweed, the roots of which often penetrate into the ground to a depth of seven feet. Between these two extremes is a list of well known perennial weeds such as couch grass, Canada thistle, perennial sow thistle, milk weed and toad flax, which are moderately persistent, yet they can be eradicated by cultural practices which may be followed by any farmer.

Many of these common perennial weeds can be effectively controlled by after-harvest cultivation commenced not later than August 1st in each year, and continued until the end of the growing season. This treatment, if followed by a well worked hoed crop, is a further insurance of eradication. This treatment is not sufficient, however, to eradicate a persistent weed like field bindweed. The best cultural method for controlling this weed is to plant corn in hills so that it can be cultivated in two directions. The corn should be grown continuously on the same area for two or three years in order to control effectively this troublesome weed.

Small patches of any perennial weed may be killed by applying sodium chlorate. Such a treatment is not recommended for large areas, however, because of the high cost. The killing of small areas of perennial weeds with a chemical is good practice. It prevents the development of what may later become a serious problem.

No. 212. -- Wed. April 30, 1941 -- Port Royal Habitation

Because of the active interest displayed in the reconstruction of the Port Royal Habitation by historical societies in the eastern United States, many visitors from the United States are expected to attend the formal opening of Port Royal National Historic Park at Lower Granville, Nova Scotia, on July 4.

The rebuilt Habitation is an exact replica of the one erected on the same site in 1605 by Champlain and De Monts. When work on this project was started, the Associates of Port Royal, an organization whose members reside in Massachusetts and Virginia, donated the services of an outstanding archaeologist, who employed a scientific method of soil reading to survey the site and determine the actual positions of the original structures. More recently this association has offered to place in the Habitation a suitably bound book containing the names of the Associates of Port Royal, as a token of their abiding interest in this reconstruction of the group of buildings which sheltered the first European settlers in North America north of the Gulf of Mexico.

Another group of United States citizens, the Order of 1606 with headquarters in Boston, Massachusetts, have shown their goodwill and interest in the

project by donating the furnishings for the Community Room of the Habitation. These furnishings, designed in the manner of the period, were made by local craftsmen in Nova Scotia.

The Order of 1806 is an organization whose aim is to maintain in our day the spirit of good companionship which characterized the social functions held in the Community Room of the old Habitation by the original Order of Good Time.

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DEPARTMENT OF
TRADE AND COMMERCE



A FACT A DAY ABOUT CANADA

FROM THE

DOMINION BUREAU OF STATISTICS

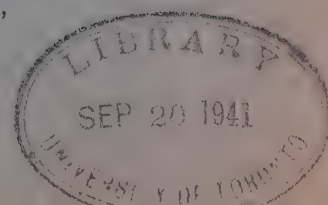
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James Muir,

Editor.

from the

Dominion Bureau of Statistics

No. 213 -- Thurs. May 1, 1941-- More about Hens

Canada seems to have started a big campaign of supplying eggs to meet war demands, so a few notes on brooding and rearing may help the novice.

The time to have chicks arrive will depend on when it is wanted to have the pullets to start to lay. Early chicks are likely to mature more rapidly than those hatched in May or June. Six months should be allowed for Leghorns to mature and seven months for the heavy breeds. It is a mistaken idea that it is a good thing to have pullets commence laying at four months. Many difficulties with poultry are at least partly due to too early maturity. In order to retard development so that birds will not mature before six months, it is advisable to cut down the amount of protein in the mash by changing from chick starter to the growing mash at six weeks and by increasing the amount of scratch grain, so that the birds are getting all they can eat before going to roost.

Probably the greatest handicap for most birds is overcrowding. Crowding does one thing well -- produces culls. Every crowded chick has to work and continues to work all through life at a disadvantage. One hundred well-raised pullets may make a dollar each, while two hundred poorly-raised may cause loss of a dollar each. Sanitation is closely associated with crowding. It may seem like a lot of work to have the brooder house cleaned frequently and to place all feed and water dishes up off the floor on wire-covered frames, so that the chicks do not come in contact with the litter around these dishes, but results have shown that it is worth the effort. Everything that is done to improve conditions for the chick will be shown in the results obtained from the laying pen.

The next point to be considered is the range. This should be planned in advance so that a clean range, producing plenty of tender green feed will be available. It is suggested that the range is cut with the mower several times during the summer so that there will always be a supply of short tender grass for the chicks to eat. This tender green feed provides materials to strengthen the body and the bird is able to build up a reserve of energy to carry it over the hard winter months. Good stock, not forced, no crowding, sanitation and good range are the main points to remember for results in the laying pen.

No. 214 -- Fri. May 2, 1941 -- Reindeer Ranching

The main reindeer herd on the government reserve near the Mackenzie Delta came through the winter in excellent condition. During the latter part of March the deer made their usual migration from the inland winter range to the coast area, and are now on the fawning grounds on Richards Island, a short distance from the mainland. A preliminary report made in April on the fawning showed that 400 fawns had been born. Reports and round-up returns for the two herds under native management in the vicinity of the Anderson and Horton Rivers are expected later in the year.

Steps are being taken to extend the benefits of the reindeer industry to the natives living along the coast east of the reserve. Young Eskimos from Coppermine and other points are being encouraged to secure training either on the reserve or with native herds so that upon proving their ability they may be entrusted with several hundred deer. In this manner the foundation is being laid for an industry which is intended to augment the ordinary means of livelihood of the native population and there-

by improve their standard of living and conserve the game resources on which they depend.

An important advance in the training of natives was made this spring in the promotion of three apprentices to positions as qualified herders at the reindeer station. These men have now greater responsibilities in the handling of the deer and will assist in the training of other Eskimos who join the reindeer service as apprentices. Thus in a few years by application to their duties these natives, under the direction of the supervisory officers, have become accomplished in reindeer work and can pass on their knowledge to other Eskimos. One of these trained men has been selected to take part in the establishment of a new reindeer herd this year.

No. 215 --- Sat. May 3, 1941 --- Unusual Fish

Add this marine power station to your list of unusual fishes sometimes found in Canadian waters: From Vancouver comes the report of several specimens of the "electric ray" or "torpedo" being taken during the past winter in catches landed by herring seiners off the west coast of Vancouver Island.

This is the fish *Tetranarce californica* to the scientists---which has back of its head a series of electric cells capable, as one authority puts it, of a combined output of electricity sufficient to knock a man down should he accidentally step on one of the rays as it lies partly buried in the sand. "This 'shocking' mechanism," to quote a Canadian fisheries scientist, "is no doubt a protective device but it may also provide the ray with part of its food."

This species of ray has a known range from northern California to Nootka, B. C. So far as present information shows, it is not abundant in the Canadian portion of its range but that is no matter since it is of no particular value and British Columbia has a wealth of fine food fishes. Closely related to the sharks, the different groups of rays are edible but, except for the skate group, are not ordinarily used for food purposes, not in this part of the world at least.

One of the electric rays caught by the herring seiners last winter measured a trifle more than 25 inches from its snout to the tip of the tail and 18 inches across the disc-like body. In colouring these fish, usually range in shade from dark gray to dark brown, and sometimes they are marked with small round black spots. The body, exclusive of the tail, is an "almost circular disc, the tail stout with well-developed fin, and the skin smooth without spines or prickles."

Closely akin to the sharks, as already pointed out, the electric rays give birth to their young alive, as do many sharks. On the other hand, their "in-laws," the fish of the skate group, deposit their eggs on the sea bottom where hatching takes place.

No. 216 --- Sun. May 4, 1941 --- More Men Wanted

Great Britain is at war! Canada is at war! The whole world is spinning round in a maelstrom of strategy, intrigue, and woeful, wanton slaughter. The vast potential power of freely thinking, freely acting, "civilized" peoples of the universe is being brought into line to resist the onslaught of hordes of barbaric robots that threaten the world with slavery.

Canadians must act and act now! An urgent call has gone forth for 32,000 men to swell the ranks of the Fourth Division and fill vacancies in the Third. Although men are needed in every branch of the Service, recruits are mainly desired for artillery, armoured units, engineers, ordnance and other technical branches of the army. Mechanical training will be of great assistance, but is not necessary, as the Army Trade Schools provide excellent training along the lines required.

Statistics show there are enough men available for Navy, Army and Air Force without impairing necessary industrial production. In the case of key men in essential war industries enlisting, employers will have the right to apply to a Board which may advise leave from the army for an appropriate period, if the employee so desires.

What constitutes a "key man" and a "war industry"? The former covers any man employed in a war industry whose occupation may not be interrupted without causing serious loss of effectiveness in his employer's activity. Any activity essential to the successful prosecution of the war is considered a "war industry." Application of these terms is left to authority of National War Services Board of each Administrative Division under the National Resources Mobilization Act.

In many cases women are taking the place of men in the factories, in business houses and even in the Fighting Services, thus freeing able-bodied men for active service.

Over 1,200 members of the medical profession have volunteered and been accepted for service since the outbreak of war. It is anticipated that another 140 for home duty and 210 for overseas will be required during the next twelve months.

The need for physically fit recruits is great, and veterans are asked to do their part in encouraging and stimulating enlistment. Col. Ralston, our Minister of National Defence, in a recent address to the young men of Canada said: "With all the power of the sincerity that is in my heart I ask those of you who are able to answer the call of your country . . . the freedom of the people of Canada as well as the freedom of the world is in the balance."

No. 217 --- Mon. May 5, 1941 --- Art Courses at Banff

This summer the Banff School of Fine Arts will again bring men and women from all over the continent to the Canadian Rockies, where they will spend four weeks in intensive study in the fields of art, music, or drama, under the guidance of distinguished instructors. During the past eight years the art courses at Banff have been attended by almost 1,400 students, who combined a holiday in this popular mountain playground with active participation in the practice of the art that appealed most to them.

Last year the Banff School of Fine Arts was held in the new and attractive auditorium of native stone and timber. A theatre, equipped with the finest staging equipment; rehearsal rooms; a music room, and an art studio are provided in the auditorium. The new building adds immeasurably to the school's efficiency as a centre for the development of the arts. The Banff school is conducted by the Department of Extension, University of Alberta, and certificates attesting to the work done are given to aid the students in the pursuance of their work in the commercial field. The curriculum includes classes in sketching and painting, in piano, choral singing, and in all branches of the theatre-acting, directing, staging methods, and play-writing. Concerts, exhibitions of new pictures, and the production of professional and student-written plays mark the close of the summer term.

Attendance at the Banff School of Fine Arts also provides the students with excellent opportunities for recreation in the park. Golfing on a course unsurpassed in Canada, swimming in the great pools which are fed by hot mineral springs in the heart of the mountains, canoeing on the Bow River where the quiet is disturbed only by the sudden explosive protest of a beaver who has been annoyed--these are some of the sports awaiting the student-vacationist and the holiday-seeker. Some of the more-actively inclined may prefer to climb the magnificent peaks which reach skyward on every hand, or to ride or hike far into the interior of the ranges. Others may enjoy sight-seeing trips by motor through the wild beauty of the Yoho Valley or to Lake Louise. Tennis, dancing, fishing in mountain lakes, or just loafing in the sun, all take on added charm and benefit in Banff.

No. 218 -- Tues. May 6, 1941 -- Growing Hops

Increased interest in the growing of hops has been general since 1930 in Eastern Canada and British Columbia, the two principal districts in which they are grown in Canada. However, the Canadian output has never been sufficient to meet the needs of the country and the deficiency has been supplied by Great Britain, Continental Europe, and the United States, over 60 per cent of the imports coming from Europe.

The hop vine is a perennial climbing herb. The hops are the soft greenish cones which are one or two inches in length, composed of thin leaf-like scales having a bitter taste and a heavy narcotic odour. Cultivation of the hop for brewing dates back in Europe to the Middle Ages but the industry was not known in England until 1524 when it was introduced from Flanders. In medicine the hop products are regarded as moderately narcotic. The freshly dried cones made into a pillow are useful for procuring sleep by inhalation of the aroma. It also finds a use for fermentations and poultices.

In general, hops do well on a fairly wide range of soil types. It is essential that the land be well drained and fertile. In Eastern Canada the greater part of the area planted to hops is sandy loam soil of medium to good fertility. This soil type is usually better drained than the heavier soils and is therefore much more suitable for hop production.

As a rule, hops can be grown where the soil type is suitable and harvesting is possible during the latter part of August and early September. Under moderate climatic conditions, such as are found in the hop districts of British Columbia, hops can be grown on somewhat heavier soils, but in Eastern Canada it is imperative the crop be grown on well-drained sandy loam to avoid the heavy losses occasioned by heaving by frost and the subsequent winter killing of the roots. Even when grown on light soils, some winter killing does occur, but, with adequate snow cover, which is normally the case in Eastern Canada, the damage is usually slight.

No. 219 -- Wed. May 7, 1941 -- Australia in Freedom's Cause

"So long as these dominions stand, Great Britain shall not fall." -- Prime Minister Menzies of Australia, Canadian House of Commons, May 7, 1941.

More than half a million of Australia's 7,000,000 inhabitants are engaged directly in war activity -- in the three arms of the fighting service, in the separate home defence army, on the industrial front. This number takes no account of the thousands of unpaid men, women and children who give up hours of their leisure to

help Australia's war effort.

Less than a fortnight after Australia declared war on Germany, the Prime Minister of Australia announced the Government's decision to raise a special force of 20,000 for service either in Australia or overseas. Thus was the A.I.F. born again, and it proved a worthy heir to the original A.I.F. which became Australia's national tradition.

By November, 1939, a division had been enlisted. It sailed for Palestine in January, 1940. Subsequently, the Government decided to build the A.I.F. to complete Army Corps strength and to provide for its unlimited reinforcement. Three more divisions and corps troops have been raised. An Armored Division has been organized.

In the short space of 18 months, the A.I.F. grew to a modern army of more than 100,000 soldiers. Australian soldiers have already achieved fame in Libya and Greece.

Australia now has an army of four divisions, plus corps troops, on active service.

Australia plans to spend £200,000,000 on her war effort this year.

Soon after the first British victories in Libya, the Australian Government decided to form an Australian Armored Corps to cost millions of pounds. The first step was formation of an A.I.F. Armored Division. This will include skilled personnel numbering 10,000 officers and men, between 500 and 600 medium and light tanks and more than 1,000 other armored vehicles.

All existing armored units in the A.I.F. and the Australian military forces have been embodied in the new corps. An armored training centre has been established for the training of officers and men.

The Australian Air Force is the baby of the fighting services -- but only in years. At the beginning of 1940, 268 recruits had been accepted as air crews and 2,421 as ground staff. At the end of 1940, 12,576 air crew personnel and 25,276 ground staff had been interviewed and accepted -- a total increase of 35,163. During the 58 weeks to February 21, 1941, more than 160,000 men had applied. This total is equal to one application every three and a half minutes, night and day.

Australia is one of the four partners in the Commonwealth Air Training Plan. Her task is to provide over 20 per cent of the required personnel. She is well ahead of schedule. Australian airmen are training in Canada under the Plan.

The personnel of the Australian Navy is more than three times as great as it was in August, 1939. Recruiting is proceeding at the rate of 5,000 men a year.

Work of building 40 patrol vessels, three Tribal destroyers and a number of other auxiliary craft is progressing rapidly.

Compulsory military training for home defence came into operation in January, 1940. At the end of February, Australia's home forces amounted to about 210,000 exclusive of the latest draft of compulsory trainees.

Since the war began, Australia has stepped up her industrial war effort twenty-fold. Nearly 150,000 Australians are employed directly and indirectly in turning out munitions of war, fighting vehicles, war planes, army material ranging from minor items of equipment to huge mobile field units, developing medical

supplies formerly imported from the Old World, building ships.

No. 220 --- Thur. May 8, 1941 --- Whalers Put to Sea

Out on the British Columbia coast the whaling ships have put to sea again. Not the square rigged ships of olden days but powerful steel whaling tugs armed with harpoon guns and fitted for whaling in the modern manner. The whaling season opened on April 1st and will continue for about four months. Whalers operate under licence granted by the Dominion Department of Fisheries and this year six licences were taken out.

Whales are utilized in the manufacture of meal, oil and fertilizer, but oil is the chief product of the Canadian whaling industry, which, by the way, is entirely a British Columbia industry. Under ordinary conditions whaling products are in the main exported to the United Kingdom and the United States.

In 1939, due to unfavourable market conditions, no whaling was carried on from Canadian ports but more favourable conditions prevailed in 1940 and the whalers went out again. In that year British Columbia whalers operating from two stations landed a total of 219 whales which produced over 361,000 gallons of oil, 181 tons of meal, and 434 tons of fertilizer.

Six species of whales are taken in operations in the Pacific with sperms and finbacks most plentiful. Some sulphur, humpback, bottlenose and sei whales are also taken, though in last year's operations none of the latter two species was captured. The sulphurs are the biggest of all the whales taken in Canadian operations and an 83-footer of this variety headed the list in 1940.

Altogether, 186 male and 33 female whales were taken last year. Divided according to species, the captures showed, sperms, 126, finbacks, 89, sulphurs, 2, and humpbacks, 2.

No. 221 --- Fri. May 9, 1941 --- Cape Breton Highlands

Bagpipes and the kilt will feature the formal opening of Cape Breton Highlands National Park, scheduled to take place on Dominion Day, July 1, at North Ingonish, Cape Breton, N. S. Hon. T.A. Crerar, Dominion Minister of Mines and Resources; Hon. A.S. MacMillan, Premier of Nova Scotia, and other Dominion and Provincial Ministers and officials are expected to take part in the opening ceremonies.

Established in 1936, Cape Breton Highlands National Park embodies a rugged and mountainous area of 390 square miles in the northern part of Cape Breton Island. Development work carried out so far includes the improvement of the Cabot Trail, which encircles the park and provides a safe and comfortable motor highway; construction of an 18-hole golf links, and the provision of administration buildings, bath-houses, tennis courts, and other recreational facilities. In addition, the Government of Nova Scotia has provided excellent facilities for travellers in Keltic Lodge.

The hills and valleys of the park bear striking resemblance to the Scottish Highlands, and in picturesque villages outside the park live many families of Highland Scottish ancestry who have retained the traditions of their hardy forefathers. Here the Gaelic is spoken, and the custom of the "ceilidh" and "mod" is still preserved.

Port Royal National Historic Park, on the original site of the Port Royal Habitation built in 1605 by Champlain and De Monts, will also be officially opened on July 4. Here on the shore of Annapolis Basin has been erected a replica of the group of buildings, which sheltered the first settlers in Canada and formed the first permanent trading settlement in North America north of the Spanish settlement on the Gulf of Mexico. This unique historic park forms a link with many other "first events" in Canadian History, and adds immeasurably to the historic attractions of Nova Scotia.

No. 222 --- Sat. May 10, 1941 --- Bee Diseases

Bees, like all other living creatures, are subject to diseases but fortunately those affecting bees do not attack either animal or man. They do, however, create a serious problem for the beekeeper. Bee diseases are divided into two groups: those affecting adult bees and those affecting the brood. There are no serious adult bee diseases in Canada but an occasional colony may be found suffering from paralysis but such colonies seldom die outright, nor does the disease appear to spread to other colonies. Changing the queen of the colony usually effects a cure. Dysentery, so common among bees during the spring, is not a disease but the result of long confinement to the hives. The first good flights in spring relieve the condition. The brood diseases are more serious although European foul brood and Sacbrood may easily be kept under control by good beekeeping practice. American foul brood, however, is feared by all beekeepers for once a colony becomes infected it is doomed and until destroyed is a menace to all other colonies within flying distance of it.

Although the Department of Agriculture of each province does its utmost to help the beekeepers control American foul brood, it is imperative that each beekeeper co-operate by learning the symptoms of this disease and act as his own inspector. To distinguish disease one must first know the appearance of healthy brood. Uncapped larvae, when healthy, are pearly white in colour and lie, curled up, at the base of the cell while the cappings over sealed brood are slightly convex and of the same colour as the surrounding comb. Discoloured larvae, dark coloured, sunken or perforated cappings must be regarded with suspicion. Brood dead of American foul brood turns dark brown in colour and sinks to the lower wall of the cell and is usually accompanied by a disagreeable odour. If a splinter of wood is inserted into the dead larva and then slowly withdrawn part of the mass will adhere to the splinter and draw out in fine threads. If one is at all doubtful as to the disease present a small sample should be sent to the provincial apiarist or to the Bee Division, Central Experimental Farm, Ottawa, for diagnosis. This service is free. As apiary inspection and disease control is under the jurisdiction of the provincial departments every beekeeper is advised to write these departments for a copy of the act covering this work.

No. 223 --- Sun. May 11, 1941 --- Klondike Memorial

Early Klondike days in the Canadian Yukon are recalled by Canada's most northerly historic site, a bronze tablet at the entrance to the Administration Building in Dawson City, Yukon. Erected some years ago by the Department of Mines and Resources on the advice of the Historic Sites and Monuments Board of Canada, this memorial tablet pays perpetual tribute to the memory of the hardy pioneers whose determination and courage gave vast riches to the world.

Braving extreme dangers and untold hardships, those indomitable prospectors and miners ventured through the Chilkat and Chilkoot passes into the unexplored valley of the Yukon to pave the way for the discovery of the rich gold

fields with which the names of Robert Henderson and George W. Carmack are inseparably associated. For many years gold had been prospected for in the Yukon, but none of the discoveries created any great excitement until the rich find was made on Bonanza Creek on August 17, 1896. Had this lucky strike not been made it is possible that the treasures of Bonanza, Eldorado, Hunker, Dominion, Gold River, and many others might still lie hidden away in the bedrock and gravel covered by the heavy forests that grew in the valleys.

After almost half a century the Yukon continues to be an important producer of gold, but the pan, rocker and sluicing methods of the early Klondike miners have been replaced by huge hydro-electric power dredges. Although many of the hardy Yukon pioneers have passed on, each year their dwindling ranks parade to celebrate Discovery Day, when stirring tales of long ago are again retold.

No. 224 -- Mon. May 12, 1941 -- Canada At War

On third reading of the \$1,300 million war appropriation Bill, Prime Minister Mackenzie King outlined to the House of Commons what Canada has done in 18 months of war. Here are some points:

In the Army, Navy and Air Force together, Canada has a quarter of a million men on active service. This does not include 175,000 in the army reserve.

A Canadian army corps, Canadian destroyers and Canadian air squadrons sharing in the defence of Britain.

Canada's navy and air force doing their part to keep open vital sea lanes of the North Atlantic.

Canadian garrisons on guard in Iceland, Newfoundland and the West Indies.

Canadian engineers strengthening the defences of Gibraltar.

Canadian navy which had only 15 ships at the outbreak of war now has over 180.

Nearly 60 military training camps distributed across the country.

Under British Commonwealth Air Training Plan, some 90 establishments already in operation.

Canada's outright contribution as a belligerent is paid for in full by the Canadian people. It is not leased to Britain. This contribution is estimated to cost the Canadian people \$1,450 millions in the coming fiscal year.

In addition to her own war effort, Canada is a major source of supply for Great Britain.

Since war began, British and Canadian governments have undertaken capital advances of over \$380,000,000 for the expansion and equipment of Canadian industry. Expansion of production in Canada has already been reflected in the absorption of between 330,000 and 350,000 additional men in industrial employment.

Over and above direct war effort, Canada expects to send \$1,500 million worth of munitions of war, raw materials and agricultural products to Britain during

the next twelve months.

In the fiscal year beginning April 1, Britain's deficit in her balance of payments with Canada is estimated at \$1,150 million.

Canada must provide Britain with Canadian dollars to meet this deficit either by purchasing Canadian securities now held in Britain or by accumulating sterling balances.

From September 15, 1939, to the end of February 1941, United Kingdom's deficit with Canada amounted to approximately \$737 millions. Of this deficit, Canada provided 45 per cent by repatriation of securities, 21 per cent by accumulating sterling balances in London and only 34 per cent by transfer of gold.

During the six months' period ended February 28 last, Britain's deficit with Canada was \$359 million. Canada financed the whole of that deficit except \$65,000,000 covered by gold shipments.

Since early part of December, no gold received from Great Britain.

Taking national income of United States at \$80,000 million, Canada's estimated war expenditure, direct and indirect in 1941-42 equivalent to an expenditure by the United States, in a single year, of almost \$35,000 million.

Canada's financial assistance to Great Britain in fiscal year 1941-42 equivalent, in comparable American terms, to something over \$15,000 million a year.

In terms of United States population, 250,000 Canadians on active service are equivalent to an armed strength in the United States of over 2,750,000 men. This does not include Canada's reserve army for home defence.

No. 225 -- Tues. May 13, 1941 -- Rural Canada is Helping

Rural Canada is not playing second fiddle to urban Canada in the great National Salvage Campaign. Not by any means. Rural Canada is making a very notable contribution to this aspect of the war effort. Farm, and country town homes are pouring a steady stream of reclaimed raw materials into the war industries.

For instance, statistics accumulated to date show striking activity in the collection of secondary textiles, or old rags, and old bones. The salvaging of rags is somewhat complex. They have to be carefully sorted. The salvaging of old bones is more simple. In both cases the country town and rural local salvage committees across Canada are doing heroic work.

Woollens undergo a salvage transformation that is hard to believe. After this type of rag reaches industry the transformation begins. They are thoroughly cleaned, sterilized, and then shredded. The shredded material is next mixed with live wool. And the combination is woven into several kinds of heavy cloth which makes blankets and uniforms.

Collecting wool rags and turning them back into industry is definitely a direct contribution to the war effort by the rural salvage committees.

Collecting cotton rags is no less so. White or colored, they find their way finally to factories which make "waste" into machinery wipers. That old house dress you contributed to the salvage campaign in your district may at this very moment be

wiping the oil and grease from a lathe that is turning out a bomb to be dropped on Berlin!

Other types of secondary textiles are interesting the National Salvage Office. Linens, for example, are being turned back into industry to make the fine grade of paper needed for important military and state documents. Country towns salvage groups are co-operating in increasing the supply of this.

Jute sacks are still another type of secondary textile having salvage value. Owing to the slow delivery of jute from India and the problem of getting shipping space, there has been difficulty in supplying the needs of the Canadian market with new bags. As a result, second hand jute bags have appreciable value. They are being disposed of locally by rural salvage groups collecting them.

The salvage of bones in rural and country town Canada is, of course, not as easy as the salvage of rags, except in those municipalities within trucking distance of large centers. But the great need for bones for Canadian war industry, in the explosive and adhesive departments, prompts all possible efforts at salvage in this direction.

Canada has many munitions factories; and sandpaper, made by glue concerns, is an essential commodity in the manufacture of airplanes. Maintaining a continuous supply of bones for these enterprises is to assist materially in supporting Canada's fighting men. Country town housewives who save bones are contributing directly to winning the war. Rural voluntary salvage groups that gather bones from farms also contribute, since even sun-bleached and wind-dried bones have value.

Canada from coast to coast is singing that old song ---"Any rags, and bones?" --- with new zest and emphasis. Rags and bones are war materials, and the collecting of them for war purposes is doing a war job of real importance.

No. 226 --- Wed. May 14, 1941 --- Shelter Belts

In the ordinary sequence of events in the general protection of prairie farms, the establishment of tree belts is a first consideration, particularly of those made sufficiently roomy to avoid cramped quarters for garden and fruit plots, for shelter is an absolute necessity in successful horticulture under prairie conditions. The percentage as yet of prairie farmers growing fruits is comparatively small. Reports recently received from 2,869 farmers possessing fairly well developed tree belts show that 97 per cent have good vegetable gardens, 41.2 per cent are growing small fruits, and 24.5 per cent tree fruits. However, a large number of farms are still without shelter and consequently there is little attempt at growing fruit.

It has been fully demonstrated that fruit of some kind can be grown anywhere on the prairies where conditions are suitable for grain farming. Farmers at widely scattered points have made outstanding successes with fruit and their accomplishments are stimulating others. Where a choice of location for fruit growing is available, a northerly or easterly slope is generally conceded to be the most favourable, but the average farmer need not hesitate because he has not an ideal site. The main thing is adequate protection which has to be developed by shelter belts.

Factors in selecting the site are--convenience to buildings, taking advantage of natural contours so as to utilize as far as possible the natural spring run-off from melting snow collected by the shelter belts, and proximity to the farm dugout so that surplus water may be made available for irrigation. Shelter should be made on all

four sides because severe storms may come from any point of the compass. The main belt should consist of at least three to five rows of trees, with the inside row at least 20 feet from the nearest fruit trees or garden crops. Hardy evergreens give the best shelter. Broadleaf varieties, such as caragana, boxelder, elm, and ash develop more quickly and afford good protection in from four to six years. Where possible, evergreens should be planted to supplement the main belt and will increase in effectiveness as the years go by.

No. 227 -- Thurs. May 15, 1941 -- Those Spoilt Holidays

Many a summer outing or a pleasant week-end afternoon in the garden is spoiled by mosquitoes. While not ensuring complete control, measures may be taken to give at least some protection for short periods in limited areas. A spray for this purpose is mentioned by C.R. Twinn, of the Government's Division of Entomology, in a publication on "Mosquito Control in Canada". The spray may be prepared by thoroughly emulsifying one gallon of kerosene containing the extract of one pound of pyrethrum powder (a standard pyrethrum fly spray would do) with one-half gallon of water in which four ounces of liquid soap (40 per cent) have been dissolved.

This concentrated emulsion, after being well shaken until thoroughly mixed, should be diluted with 10 parts of water and sprayed as a fine mist on lawns, shrubs, and other vegetation, by means of a pressure sprayer with a suitable nozzle, using about 55 gallons of spray per acre. The application should be made about half an hour before the picnic or the meeting takes place.

This spray may also be substituted for petroleum oil in treating ponds and other water bodies to kill mosquito larvae and pupae, using about 50 gallons to the acre of water surface.

However, in mosquito control, although individuals on their own property may assist greatly by preventing mosquitoes from breeding, best results are obtained only when the work of control is organized on a community scale, either by public-spirited citizens or by municipal or other authorities, and is carried out under competent direction and with adequate funds.

No. 228 -- Fri. May 16, 1941 -- Poultry Range Management

Too much emphasis cannot be laid upon egg and poultry development; for under war-time conditions the keeping of poultry and in particular the production of eggs for shipment to Britain is becoming increasingly important.

The stock that is to produce these eggs for fall and winter supplies is at present the immature pullets now on range. To a large extent the success to be achieved during the next several months depends on the conditions prevailing through the rearing period.

Problems of range management arise from three main sources: Selection, feeding and housing. Selection or culling of birds on range should be started at an early age and continued throughout the summer. By such selection the weak and poorly constituted birds are weeded out. As these birds are the ones most susceptible to disease and indeed are often carriers the possibility of large scale outbreaks of disease is greatly reduced. Many poultrymen cull continuously by watching their flock and removing the poor ones daily while doing the chores. Others cull at regular monthly or bi-

monthly intervals.

Feeding methods on range are similar to those of other periods in the birds' development. Much labour is saved and more uniform growth is secured if large field hoppers are provided so that the birds may eat at any time. The feeds required during the rearing period differ somewhat from those of brooding or laying. Cheaper feeds can be used on range because the protein requirements are not so great and also because the chicks are not confined and have a plentiful supply of green feed as well as an abundance of direct sunshine. When such conditions prevail the meat meal or concentrate in the ration can be materially reduced and the cod liver oil entirely eliminated. Rations for the rearing period may be made up from the coarser and less expensive feed ingredients. Scratch grains are introduced gradually when the chicks are six to eight weeks of age and slowly increased in amount until the birds are eating approximately twice as much whole and cracked grains as mash. High calcium limestone grit or ground oyster shell should be hopper-fed and available to the birds at all times. This ensures a plentiful supply of calcium for bone formation and helps avoid gizzard impaction and other digestive troubles. Clean water is essential for chickens on range. Water fountains should be scoured out and refilled with fresh water every morning. It is a good plan to boil or otherwise disinfect all watering equipment at least once a week, particularly during the hot weather.

Housing on range should be done in the most inexpensive type of buildings available. The most important consideration in range accomodation is to provide a dry, well ventilated house free from draughts. Portable colony houses meet these requirements. Range shelters are used to supplement colony houses and in general it is range shelters that house the range cockerels. Separation of the sexes at an early age gives the pullets more hopper and roosting space, promoting uniform growth and maturity. In providing adequate roosting space for birds on range the recommendations are to allow 35 linear feet for each 100 chicks up to the age of four months. After that age allow 50 linear feet for the same number of birds.

To raise healthy chicks free from worms and other parasites it is necessary to rear them on clean well drained land. This means setting up the range houses at some distance from the other buildings on the farm, preferably near an orchard or other sheltered spot. Providing plenty of shade for growing chicks is an almost indispensable part of successful range management. Where trees cannot be utilized, sunflowers or corn should be planted so that the birds may have easy access to the shade thus provided. For winter eggs, cull vigorously, feed well and house properly, during the rearing period on range.

No. 229 -- Sat. May 17, 1941 -- Lobster Meat

Rated high as a sea food delicacy, and consequently sought in increasing amounts, especially by hotel and restaurant operators, cooked, shelled, lobster meat is playing an increasing part in Canada's lobster markets. Because of the perishable nature of this fresh or "shelled" lobster meat, producers necessarily have to employ scrupulous care in its preparation for market, and federal regulations carefully govern the conditions under which the meat may be prepared and packed for shipment.

No plants producing lobster meat may operate except under permits from the Dominion Department of Fisheries and the plants themselves are subject to frequent inspection by authorized inspecting officers. In the production of lobster meat lobsters from Canada's Atlantic coast--the fishery incidentally is the greatest lobster fishery in the world, shared in by over 18,000 fishermen--are cooked by

steaming or boiling in the same manner as in lobster canning operations. Only meat from the claws and tail is used. It is carefully washed after removal from the tail and then packed in enamel lined cans, usually 14 ounces of meat to the can. A small amount of pickle is added in packing. Covers of the push-cover or screw top type are used on the cans.

At all times after cooking the meat is handled at the lowest possible temperature above freezing. After it has been placed in the covered cans, the tins are pre-cooled in crushed ice so as to bring their temperature down near the freezing point as soon as possible. They are then held in a cold room until ready for shipment by fast transit to point of delivery.

The cans are usually shipped in small barrels, about three dozen cans to a barrel, surrounded on all sides by crushed ice. They are packed inside a three sided slat framework with crushed ice between the slats and sides of the barrel as well as on the bottom and top. Usually covered with burlap, the barrels may be re-iced during transit in warm weather or on long trips, thus further ensuring protection of the quality of the goods.

Speed in packing and shipping is essential in the lobster meat business and the live lobsters utilized are not cooked until there is just enough time to pack and chill the meat and fill the barrels, before departure of the boat or train on which shipment is made.

Although there is growth in the lobster meat business, by far the greater part of Canada's annual catch of more than 31,000,000 pounds of lobsters is used by the plants putting up canned lobster and by dealers in live lobsters or lobsters shipped in the shell. Most of the live lobster business is done with the United States. In pre-war days much the greater part of the canned lobster production was marketed in Great Britain and some parts of continental Europe, but at present it must find outlet instead in Canada and the United States.

No. 230 -- Sun. May 18, 1941 -- Fire Effect on White Pine

Disastrous forest fires have occurred this spring, and the National Research Council looks upon the effect of these fires on white pine succession very seriously.

The three coniferous species with whose future Canada is chiefly concerned are Douglas fir in British Columbia, white pine in Ontario and western Quebec, and spruce in Quebec and the Maritime Provinces. Each of these species has its own reproduction problems; each demands special investigation. Of these problems, succession of white pine on burned-over lands was selected for first attention.

A special report contains material secured in a survey through 1939-40 of white pine cover-types in the Ottawa Valley region. It was the purpose of this survey to study present conditions of regeneration on cut-over and burned-over stands, to chart the probable succession of vegetation, determine the significance of fire and other factors influencing pine regeneration, and from this information to deduce improvements in management methods.

Previous regeneration surveys were analyzed before field work was undertaken. Seven widely distributed areas on both sides of the Ottawa River were examined. Data on fire history, soil conditions, herbaceous, shrub and tree vegetation and tree growth were recorded. It was found that (a) white pine regeneration on

cut-over and burned-over lands is generally insufficient for future requirements; (b) white pine in tolerant hardwood cover-type is no longer significant; (c) an insufficient number of seed trees remains after cutting, and the maximum number of seedlings is not greater than double the number of the stand present prior to cutting, which is considered inadequate; (d) burning in stands of mature timber stimulates regeneration, but results of fire in young stands are still doubtful and additional data are required in this connection.

While further work in this field has had to be discontinued because of the war, it is hoped to renew the study as soon as possible and to make a further examination of the relations between seed supply, seed year and the resulting regeneration on burned and unburned soils. The number of seedlings required to provide a final crop worth harvesting also needs further study and for this and related work a set of permanent sample plots located in commercially logged-over limits, in addition to those already established in managed stands, appears to be essential.

No. 231 -- Mon. May 19, 1941 -- Corvette to be Named after Chambly

Announcement that one of the new corvettes of the Royal Canadian Navy is to be called the "Chambly" awakens new interest in Fort Chambly National Historic Park, twenty miles south-west of Montreal, on the Richelieu River.

The history of Fort Chambly goes back more than two and a half centuries to the days when the French built a chain of forts along the Richelieu to protect the colonists from the marauding Iroquois, whose depredations made it unsafe for men to attempt to work in the fields or forests. The first Fort Chambly, built in 1665, was of wood construction, 140 feet square with palisades 15 feet high. Inside the walls were barracks for the soldiers, a chapel, and a house where the commandant, Jacques de Chambly, lodged and had his office. The fort served as a refuge for the settlers during Indian raids until 1702, when it was temporarily abandoned by the military authorities and the Indians seized the opportunity to commit it to flames.

It was rebuilt on a smaller scale, and in 1709 representations were made to France urging the necessity of a stone fortress on the site. While waiting three years for the approval of the French Government at Versailles, the impatient colonists, with the aid of the militia, built the massive structure, the ruined walls of which still stand. In 1760 the fort was surrendered to the English, when Montreal capitulated. It was held by the British until 1775, when American troops under General Montgomery captured it. They evacuated in 1776, burning everything which was combustible and leaving only the four walls standing.

In 1777 the fort was repaired and garrisoned by Governor Carleton. During the War of 1812-14 it was used as a base of operations, and at the end of hostilities served as a resting place for the soldiers of the regiment of the Duke of Wellington on their return from Spain. It was completely abandoned as a military post in 1851.

Recently designated a national historic park, the ruins of old Fort Chambly stand as a shrine to the memory of those gallant souls who "have enriched with their blood the soil where germinated the civilization of the new world." Three walls of the fort still remain, and there is a museum containing interesting relics of the region together with examples of French-Canadian art and handicraft. Along the south wall the ruins of two great fire-places have been identified as the only remains of the chapel, hospital and chaplain's house.

Within the northeast bastion may be seen the magazine or storehouse, still in fair condition, with vaults and cells. In the northwest bastion is found the old "donjon", distinguishable by its arched masonry. The flagstaff of the fort has borne in turn the Lilies of France, the Union Jack of Britain, the Stars and Stripes of the United States, and now for a century and a half the flag of the British Empire. Rich in historical memories, Fort Chambly today presents a romantic rendezvous for tourists.

No. 232 -- Tues. May 20, 1941. -- Plants in the Home

If new clay pots are used for growing plants in the home, they should be soaked in water for a time and dried before using. Old pots should be thoroughly scrubbed inside and out. Before filling the pots with soil, a few broken crocks should be placed over the drainage hole. Pots should not be larger than is necessary to hold the roots. It is better to start a plant in a small pot and then repot it into a larger one when the roots have filled the small one. When plants are in active growth, fertilizer may be given. The tablets sold under various trade names are the easiest to use on potted plants in the home.

The soil used in the pots should be fairly rich and porous so that water drains out of it easily. A compost made up of three parts good loam, 2 parts leaf mould, and one part sand, with about a tablespoonful of bone meal to a quart of mixed soil, will suit most plants. All should be thoroughly mixed and slightly moistened.

The chief difficulty encountered in growing plants in the home is the hot, dry atmosphere. This can be controlled to some extent by keeping dishes of water on the radiators and spraying the plant with a mist-like spray of water. The spraying helps to destroy insects, and, by keeping the foliage of the plants free from dust, encourages good growth. Light is another necessity. A window that has sunlight for several hours is required for most flowering plants, but ferns and other plants grown for their leaves will do well without sun. Fresh air is essential but draughts and sudden changes of temperature must be avoided.

No. 233 -- Wed. May 21, 1941 -- Process of Extermination

Sometimes it does not seem as if the Canadian people realized what is happening in those countries of Europe which the Nazis have occupied. We seem to avoid reading the harrowing tales. The Poles, for example, are being mercilessly exterminated by the Germans. Here is an official report which gives but ~~an~~ ample of what is going on.

Nazis are driving panic-stricken Poles from their homes in Polish territories now incorporated in the German Reich. The deportations affected all districts, all classes of people. In the districts of Gostynin and Kutno small landowners have been expropriated, landless peasants driven out. Five hundred persons, Polish business men and merchants, were expropriated in Kutno in one night. Children were separated from their parents and taken into the Reich.

Throughout the most severe part of last winter, deportation from the Pomorze provinces of Lodz and Poznan continued. From the small district of Kosciany, 800 peasants were taken to the General Government in cattle trucks. Their journey to Zamosc lasted five weeks during which they received no cooked food and remained endless periods at wayside stations where 40 children died.

Out of one single transport of 1,200 Poles from the west to Piotrkow, 229 children died, besides several adults.

Only seventeen children survived the journey.

No. 234 Thurs. May 22, 1941 Our New Gold Area

Discoveries of gold which show promise of commercial importance are reported to have been made in the vicinity of Snare and Emile Rivers and Wray Lake in the Northwest Territories. Already a total of 500 claims have been staked in the new field which lies about 150 miles north of Yellowknife settlement, and preparations have been made for the carrying out of extensive exploratory and development work during the coming summer.

Mercury Gold Mines Limited is at present stripping the overburden from its showings at Emile River and is sampling, mapping, and diamond drilling the veins. Later the company will sink prospect shafts. A small mining plant is on its way to the property and a power site has been located about seven miles from the claims. Adjacent to the Mercury property are areas of greenstones which have not as yet been prospected, and thirty miles to the southeast, Frobisher Exploration Company has a group of claims on which it plans to carry out a program of diamond drilling. Interest in the discoveries is based largely on the hope that they will mark another important stage in the growth of mining in the Northwest Territories.

Prior to 1929 the principal mineral developments in the Northwest Territories were the location and partial development of lead-zinc deposits near Pine Point, Great Slave Lake, and the discovery of oil at a point about fifty miles below Norman on the Mackenzie River, where there are now three producing wells and a refinery. During that year deposits of copper were staked at Hunter Bay, Great Bear Lake, but it was the discovery in 1930 of the ores of radium and silver at Echo Bay on the east side of Great Bear Lake which provided the first real incentive to a search for minerals in the Territories.

A few years later gold was discovered in the Yellowknife River area. It was from the Con property in this area that the first gold brick produced in the Northwest Territories was poured in September, 1938. By the end of February, 1941, this mine and the Rycon and Negus mines in the same area had produced gold to a total value of more than \$4,500,000. Three other properties in the area are nearing the production stage.

In September, 1940, Slave Lake Gold Mines Limited resumed development of its claims on Outpost Island, and this property was brought into production early in 1941 when a mill with a daily capacity of 50 tons of ore was put in operation.

No. 235 Fri. May 23, 1941 Pelicans and Cormorants

An outstanding feature of a wild life survey conducted in Prince Albert National Park in Saskatchewan last summer was the observation of breeding colonies of white pelicans and double-crested cormorants in Lavallee Lake. This lake is in the northwestern extremity of the park, surrounded by virgin forest, and the birds occur on several islands, the two species in some instances amicably nesting together in the same area. As a rule they are so sociable that, regardless of the amount of space available, very crowded conditions prevail. The largest nesting colony is

composed of several thousand adults and juveniles of both species with the pelicans being greatly in the majority.

One of the showiest of the large birds of the continent, the white pelican is famous for the amount its beak can hold. It has a fascinating habit of flying in circles over a lake, and dropping down on the surface with its feet extended like two large pontoons. This bird nests over a wide geographic range. Breeding colonies which once occupied islands in prairie lakes and finally withdrew because of settlement, or drought, have taken up summer quarters on many lakes in the northern forest. Even before the advance of western civilization began, these species habitually nested at many points well north of the Great Plains. The most northern breeding locality recorded for the white pelicans is an island in the rapids of Slave River between Fitzgerald and Fort Smith in the Northwest Territories.

No. 236 -- Sat. May 24, 1941 -- Western Hemlock

Western hemlock, one of the large trees of British Columbia, is assuming a place of ever increasing importance in the lumber industry of Canada. The lumber from this species has occupied a difficult place in the past; it was produced along with Douglas fir--a wood of outstanding quality--and usually from areas which did not favour its best development. After manufacture it was offered for sale to markets accustomed to Douglas fir. The results were unsatisfactory and western hemlock lumber was largely ignored or was applied to minor uses.

Now that logging operations are opening up more areas where this valuable species is predominant, the importance of producing and marketing the lumber under conditions suited to its best utilization, and which will ensure a maximum of satisfactory use, has been recognized. The quality of lumber now cut has improved, and research has established manufacturing and seasoning practice designed to bring out the best in the wood. Western hemlock is becoming established in special fields of usefulness and is being recognized in the markets of the world as a distinct and important Canadian species.

No. 237 -- Sun. May 25, 1941 -- Colonies on the Job

Many things about the way the Colonies have lined up with the Dominions in the battle for freedom have not yet been told. The following are a few samples.

An East African Supplies Board, representing all British East African territories has been set up at Nairobi, Kenya.

The sisal industry in Kenya is turning out thousands of sandbags.

A Kenya factory is canning beef from Tanganyika at the rate of 20,000 cans a day. The beef is used to feed British forces in East Africa.

The British Government has purchased the whole of the cocoa crops in the Gold Coast and Nigeria. A West African Control Board is being set up to administer the scheme.

Plans are being made to develop shipyards at Lagos (Nigeria) and Freetown (Sierra Leone). The yards will undertake all normal repairs to ships.

Shipyards at Hong Kong are building naval craft for the Admiralty.

Over 5,000 volunteers from Cyprus are serving with the British Army, mostly with the Middle Eastern forces.

Recruiting of the first two contingents of Palestinian Jews for the Buffs (Royal East Kent Regiment) has been completed. They are the first Palestine fighting units of the British Army.

An Industrial Production Advisory Board has been formed to develop industry in Palestine for war-time conditions. The first steel foundry in the Near East has been started at Haifa. Other new enterprises include a diamond polishing factory and a factory producing rubber tubes.

No. 238 --- Mon. May 26, 1941 --- Fish Culture

Trout may be very smart fish but they don't know enough to follow the maxim, "once bitten, twice shy." Some of them don't, anyway.

Out of 475 trout recently taken by anglers in one Nova Scotia lake and its tributary streams 375, or close to 80 per cent, were fish which had previously each lost a fin at ~~man~~'s hands. They hadn't learned from earlier experience to keep out of ~~man~~'s way.

The story of these trout helps to indicate the measure of success achieved by the Dominion Department of Fisheries in maintaining fish stocks in waters where fisheries are under its administration. Here it is, in brief: Numbers of young trout from departmental hatcheries were freed in Sherbrooke Lake and its tributaries by the department's fish culture staff. Each little fish was marked by the removal of a certain fin so that it could be identified as having come from departmental distribution should it be recaptured after growing up. This year the sportsmen have been finding the fishing pretty fair in the Sherbrooke waters and, lo and behold, when their catches for the first ten days or so of the season were examined about four-fifths of the fish each lacked a fin. That showed, of course, that they had come from the departmental distribution, which, by the way, had not been especially heavy in that area.

One or two 1940 facts are of interest in the same connection. Angling catch from Sherbrooke waters last year included nearly 400 marked fish. In Coocoe Coffre Lake one angler found 35 marked trout in a catch of 50. Another sportsman who landed 17 fish on a trip to Dobson's Lake found that 14 showed the tell-tale lack of normal number of fins. In Giant's Lake, where marked Rainbow trout were distributed from the department's Antigonish hatchery, about 37 per cent of the 1940 angling catch were from the fish culture distributions. As a matter of fact, the Rainbow catch wasn't very large but it would have been much smaller if it had not been for the departmental stocking.

No. 239 --- Tues. May 27, 1941 --- Poison Ivy

Poison ivy thrives in places beyond the reach of the plough. Just like many holiday makers, it prefers a locale least disturbed by man in sequestered nooks and rocky beauty spots. At the same time it may be found growing under a variety of conditions, wet or dry, shaded or open, in all soils from pure sand to stony ground, and along fence borders in cultivated land. It has many guises. It may appear as a low shrubby patch, or as a more or less continuous border, or as a cluster like the Virginia creeper. Commonly it is of low bush growth, and it can best be identified

by the formation of its leaves which are arranged in threes after the manner of the strawberry. Unlike strawberry leaves, those of poison ivy are quite smooth and firm or leathery, with the edges sparingly course-toothed. In that respect, the leaves are somewhat like those of the Virginia creeper, which, however, are arranged in fives.

The active element of poison ivy is poisonous throughout, and the breaking or bruising of any part of the plant liberates the oil in it to come in contact with the exposed skin of the person touching it.

In mild cases of itching as a result of the poison, immediate scrubbing with strong laundry soap will effect a cure, if used before the oil has penetrated the skin and blisters begin to appear. Treatments without number have been proposed and used, but the treatment most widely recommended is to daub the affected parts with a three per cent solution of potassium permanganate. The stain left by the potassium will disappear after a time or may be removed slowly by soap and water. Tincture of iodine has also been found useful but it stains more than the potassium. Once blisters have been formed, all rubbing should be avoided.

When the attack is severe, and a doctor not available, care should be taken to localize infection by painting iodine around the edges of the sores or by using compresses soaked in a two per cent solution of aluminium acetate or any other cooling substance like soda or boracic acid. No application should be made when the sores are oozing because they may seal over and aggravate conditions.

No. 240 --- Wed. May 28, 1941 --- Value of our Auxiliary Services

"It is to the great social and welfare organizations, grouped together for convenience of administration in Canadian Auxiliary Services, that we look for the provision of the valued extras in the way of comforts and conveniences and personal help which otherwise, could not be made available or distributed to the individuals we desire to benefit," Lieut. General Andrew McNaughton, Canadian Corps Commander, stated in a broadcast from England this week, in behalf of the united appeal of the Y.M.C.A., Salvation Army, Canadian Legion, Knights of Columbus, Imperial Order Daughters of the Empire and Y.W.C.A.

"The wholesome use of leisure and the satisfaction of personal needs are problems which do not lend themselves to being solved effectively through the complex and highly specialized mechanism of military procedure," he pointed out, adding, "it is in this field of useful and constructive effort that the great Canadian social and welfare organizations have sought and found their opportunity for useful service, and it is through them that the people of Canada can give expression to their thoughtfulness and goodwill for their fellow citizens in the Armed forces both overseas and yet in Canada."

No. 241 --- Thurs. May 29, 1941 --- Co-ordinating War Effort

Speaking in the House of Commons recently, Col. the Hon. J.L. Ralston, explained as follows the co-ordination of the Government's war effort:

First, we have a wartime Prime Minister as president of the privy council and chairman of the war committee of the cabinet. On the war committee of the cabinet we have the ministers of the three defence services, the Minister of Munitions and Supply, the Minister of Finance, the Minister of Justice, the Minister of

National War Services, the Minister of Mines and Resources, and the Hon. Senator Dandurand. That body is the body co-ordinating governmental effort in connection with this war.

To some extent those three services are naturally competing in connection with their requirements. The army needs small arms ammunition; the navy needs small arms ammunition, and the air force needs it. So with uniforms, clothing, armaments--so with everything that goes to the fighting forces.

It is provided that where a particular project affects more than one service the Minister of National Defence, in consultation with the minister or ministers of the other service or services concerned shall make a decision.

But suppose we have a situation wherein the three defence services are in competition. That is ironed out and co-ordinated first by an inter-service priorities committee. That is a committee composed of representatives of the staffs of the three services, which meets and functions and makes recommendations to the ministers.

The ministers meet in the defence council, which is composed of the three ministers, the three deputy ministers and three chiefs of staff.

Next comes the ministry of munitions and supply. In munitions and supply you find the whole purchasing power, not of one service only, as in England, but of the three services--for the navy, the army and the air force. In England we find the minister of munitions and supply purchasing only for the army, and certain raw materials for the other services. The navy does its own purchasing, and the ministry of aircraft production does purchasing for the air ministry.

Co-ordination is effected in Canada by means of the Minister of Munitions and Supply, who not only purchases for all three Canadian defence services, but also purchases on British account as well. So he has in his charge the full range of the organization of industry in Canada to meet these combined requirements, and has the authority to deal with the raw materials which are needed in connection with that industry.

That is dealt with by means of controllers within the Department of Munitions and Supply. There are controllers for the various commodities, who with some controllers in the Department of Labour meet together and form a committee of controllers who co-ordinate the whole matter of supply and production of raw materials. That is the Department of Munitions and Supply. First we have the defence services; second, supplies, and then third, man-power is to be dealt with.

That is done in the Department of Labour where we have the labour co-ordination committee, a committee headed by the deputy minister of labour, and composed of representatives, first, of labour; second, of the national labour supply council, which is an advisory body, as everyone knows, representing industry and representing labour, a representative of the Department of National War Services and a representative of the defence services. That brings about a complete co-ordination and integration among the services in which man-power may be required.

Every demand which can be made upon man-power in Canada is looked into by the labour co-ordinating committee, and along with that is the national labour supply board, of which I spoke. In the result we have, first, the defence services; second, munitions and supply; third, labour; and, fourth, finance, all tying up in the war committee of the cabinet. With this tie-up in the war committee of the cabinet, headed by the war-time Prime Minister, the blueprint of the war effort of Canada is worked out

to the highest degree we possibly can; nobody claims perfection because the work to be done changes from day to day and almost from hour to hour.

No. 242 -- Fri. May 30, 1941 -- Beating Ploughshares into Tools of War

A century-old Canadian manufacturing company is doing an efficient job of beating ploughshares into the tools of war.

The factory is situated in an Eastern Ontario town. Not even a crumbling foundation stone remains of the crude blacksmith shop which was the birthplace of the modern, sprawling industry which stands upon its site today.

For more than a hundred years this factory has been turning out farm implements that have played an important role in the development of Canadian agriculture. It still makes some implements, essential to Canadian farmers who are producing wartime food requirements, but there is an ever-increasing diversion of skilled workmen and precious machines to war work.

Many of the employees are veterans whose names have been on the payrolls for 30 or 40 years. There are some whose fathers and grandfathers before them were employed by this same company, handing down their skill and knowledge from generation to generation. They have devoted their lives to making things which stand as a symbol of peace. Now they are toiling as they never toiled before to produce a variety of the weapons of war.

Chief production at present is that of rifle grenades. These are similar to the Mills bombs so familiar to those who served in the First Great War, but they have an attachment which makes it possible for them to be fired from a discharger on the muzzle of an army rifle. This increases both the range and accuracy of the grenade, a versatile and deadly weapon for close combat.

The grenade is egg-shaped, about four inches long and two inches in diameter. The outer surface is corrugated, both to give the thrower a better grip when the grenade is used for hand throwing, and to increase fragmentation of the steel case when it bursts.

A simple operation transforms a rifle grenade into a hand grenade in a matter of seconds.

A spring lever is recessed in the side of the bomb, which is held in place by a cotter pin. When the bomb is thrown by hand, the soldier pulls out the cotter pin, which serves as a safety catch to prevent untimely explosion in handling. The grenade is still safe so long as the lever in the side is depressed. When the grenade is thrown, removal of pressure on the lever releases a spring which, in turn, sets off the fuse. This time fuse burns while the grenade is in flight and ignites the explosive charge after a lapse of several seconds. The steel case is blown to pieces with terrific force, with devastating results to all who happen to be within a radius of 15 or 20 feet.

The rifle grenade differs from the hand grenade in that it has a circular steel plate, known as a gas check, attached to the base end. This gas check fits smoothly into a tubular discharger attached to the muzzle of a rifle. The butt end of the rifle is held firmly upon the ground and a blank cartridge is inserted in the breech and fired in the usual way. The gas from the exploding cartridge builds up terrific driving power against the base plate of the grenade and hurls it upon its

mission of death. The cotter pin is pulled out when the grenade is placed in the discharger, and the lever is held down by the walls of the cylinder until the grenade is on its way.

At first glance the rifle grenade seems to be a comparatively simple thing to make, but actually it is a carefully designed device requiring a high degree of precision in manufacture. Some of the tolerances in machining are as fine as $3/1000$ th of an inch—about one-tenth of the thickness of a human hair. Each tiny component must be cut, shaped, threaded, and fitted with great exactitude.

The steel grenade shells are cast in lots of eight in modern moulding machines. After the roughness of the cast has been smoothed off by grinding, and in giant "rumbling" machines and the shot blast, the egg-shaped bomb goes to the machine shop for drilling, threading, and finishing. These operations require much skill.

Young apprentices, each trained to perform a single operation and to do it well, assemble the grenades. The body of the bomb is cleaned thoroughly and varnished inside and out. Workers insert the tubular fuse holder -- the firing pin, side lever, cotter pin and ring, gas check, filling plug, and other parts.

Thousands of grenades are made in this factory every week, and the plant is geared to meet almost any production demand.

No. 243 --- Sat. May 31, 1941 --- Gypsum in Canada

Gypsum production in Canada set an all-time record in 1940, when the output amounted to 1,448,788 tons valued at \$2,065,933 as compared with 1,421,934 tons valued at \$1,935,127 in 1939, the previous record year.

Canada probably ranked third among the world's gypsum producers in 1940, the larger producers being the United Kingdom and United States. Spanish Morocco is also a very large producer.

The Dominion has extensive deposits of high-grade gypsum, favourably situated for commercial exploitation. Nova Scotia is the largest producer, and is followed by Ontario, New Brunswick, Manitoba, and British Columbia. The materials produced in Canada are the hydrous calcium sulphate, commonly known as gypsum, the partly dehydrated product known as plaster of Paris, or wall plaster, and the anhydrous calcium sulphate known as anhydrite.

The use of gypsum products in the building trades has made rapid progress in recent years because of their lightness, durability, fire-resisting, insulating, and acoustic properties. Tiles, wallboards, blocks, and special insulating and acoustic plasters have been developed. The larger portion of the crude gypsum quarried in Canada is shipped to the United States for the manufacture of gypsum products, and industrial conditions in that country will continue to have an important bearing on the industry.

Until about four years ago the Canadian production of anhydrite was exported principally to the United States, where it is used as a fertilizer for the peanut crop in the southern Atlantic seaboard states. In 1937 the market for Canadian anhydrite was extended to England, where the material is used for the manufacture of sulphuric acid, ammonium sulphate, cement and special plasters. Owing to the war, overseas shipments have been curtailed, but it is possible that an industry will be started in Canada in which anhydrite will be used in the manufacture of products similar to those made in England.

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James Muir,

Editor.

from the

Dominion Bureau of Statistics

No. 244 -- Sun. June 1, 1941 -- Canadian War Activity to Date

An Epitome of Canadian war activities as at the beginning of June, may be useful. In brief the June situation is:

More than 80,000 Canadian soldiers, sailors and airmen are now overseas. About 70,000 are soldiers.

Canadians in the R.C.A.F. and R.A.F. have so far accounted for about 200 enemy planes.

More than 800 Canadian soldiers, sailors and airmen have been listed as killed or missing since the outbreak of war.

When the war began, strength of the Canadian Navy was 13 ships and 3,600 men. Its strength is now 200 vessels and 17,500 men.

Canada has now about 188,000 men in the Active Army -- volunteers recruited to serve anywhere -- and 170,000 in the Reserves.

The Royal Canadian Air Force is over ten times as strong as it was at the outbreak of war. About 35,000 more men will be added to the Air Force during the present year.

The British Commonwealth Air Training Plan is operating 62 schools from coast to coast. Canada provides 80 per cent of the students.

Since the war began, British and Canadian governments have undertaken capital advances of \$425,000,000 to stimulate war industry in Canada.

Canada's shipbuilding programme involves an expenditure of about \$120,000,000. When war began, only 1,500 men were employed in Canadian shipyards. Now over 20,000 workers are employed in 17 major and 45 smaller yards.

Since the beginning of the war over 1,500 aircraft have been produced in Canada. About 40 planes a week are now being turned out.

One Canadian factory will soon have the largest output of any automatic gun factory in the world.

Fourteen types of land and naval guns, including latest types of anti-aircraft and anti-tank guns, and ten types of mountings, are now being made or will soon be made in Canada.

The first naval gun mounting ever made in Canada has just successfully completed its firing trials. Regular deliveries to the British Admiralty begin this month.

Ten of Canada's nineteen chemicals and explosive projects have begun production.

Small arms ammunition factories are producing tens of millions of rounds monthly.

Nine types of gun ammunition are now being turned out at the rate of millions of rounds a year.

More than 100,000 army mechanical transport vehicles, made in Canada, have been delivered and are in service.

Canada's first infantry tank has been turned out. Production programme calls for 800 infantry tanks and about 1,000 cruiser tanks.

No. 245 -- Mon. June 2, 1941 -- Watering the Lawn

Watering properly the front lawn may not seem to be a real war effort. However, it would be nice, when the boys come home, to have it looking as nice as possible. So, read the following closely and digest it. The Department of Agriculture sends it along:

Artificial watering can have a beneficial or detrimental effect on lawns, depending on whether it is properly or improperly applied. In the case of established lawns, watering is not essential to keep the turf alive, except on very light, sandy soils, but it can be used to great advantage during the warm, dry months. Only sufficient water should be applied to maintain the grass in a slowly growing, healthy, vigorous condition, but it should be done thoroughly so that the soil is moistened to a depth of 4 or 5 inches. Sprinklers are preferable to hand watering, as the latter method is usually neither thorough nor uniform. A weekly sprinkling is usually sufficient during dry weather, except on the lighter soils. Frequent light sprinklings are not recommended since they tend to restrict the grass roots to the surface of the soil, thus reducing their feeding range for nutrients and moisture and making the turf more susceptible to drought and heat. Light sprinklings also encourage the growth of shallow rooted weeds.

Overwatering can also have a detrimental effect on grass by promoting a rapid succulent growth which is susceptible to disease and other adverse conditions. Overwatering to the extent that the soil becomes saturated for long periods causes smothering of the grass roots because proper aeration is not possible.

Watering is a problem on terraces and slopes, since these dry out rapidly, particularly on southern exposures, and because the amount of run-off is great. Water should be applied very slowly and permitted to soak in deeply on such areas.

In shady areas the amount of evaporation from the soil surface and grass leaves is relatively small and consequently less moisture is required than on open areas. When the shade is provided by trees, however, more water is required than under normal conditions, because the trees remove large quantities of moisture from the soil. In such cases the soil should be moistened deeply.

No. 246 -- Tues. June 3, 1941 -- Our No. 1 Weed Pest

Dodder, which has recently gained prominence as an agricultural pest of the first rank, is a twining weed of the Morning Glory family, but, unlike other members of the family, lacks green colour and has no leaves or roots. It is one of the few

parasitic flowering plants. It germinates from seed and at once proceeds to coil round the stems of plants. Immediately after contact, the dodder forms sucker-like organs through which it obtains its food by sapping the strength of its victim. The plants attacked lose both in yield and quality.

The dodder produces large quantities of small rounded brownish seeds and propagates its species all the more quickly because the dodder seedling plants do not attract attention in the field until they have obtained some degree of development. The first recognition of the presence of dodder may be the sight of lighter patches in the midst of the dark green of the crops. In these patches, the twisted strands of naked yellowish-reddish-orange dodder stems may be seen entangled among the plants, the whole appearing as if handfuls of corn silk had been thrown over the crop.

In July the dodder comes into flower, bunched in numerous clusters along the stem. Each individual flower becomes a pod containing four seeds so similar in size and shape to those of clover that their detection and removal from the harvested seed is difficult. Dodder in clover fields is a serious matter but lately it has made its appearance in the fibre flax fields of Ontario and Quebec, so weakening the fibre that it becomes useless for spinning. The seed of the dodder is harvested with the crop plant. Contaminated flax seed must be processed for oil instead of being used to supply the keen demand for seed. In alfalfa or clover seed, dodder disqualifies it for domestic or export use, as many buyers demand certificates guaranteeing freedom from dodder.

Specific control measures depend on many factors but certain general precautions are applicable in all cases. Never sow seed containing dodder; never buy seed unless it has been tested and guaranteed free from dodder; keep clean fields clean by making certain that no seeds or fragments of dodder are carried to them in men's boots or clothing or by pasturing animals; avoid ploughing down dodder seed.

No. 247 -- Wed. June 4, 1941 -- The Queen of All the Flowers

Romance and roses are seldom far apart. The simple beauty and haunting fragrance of the rose has inspired poets through the ages, and the blossom has come down to us as the symbol of enduring love and affection. With June and "that time of year" in the offing, roses are again carrying off honours in the popular posie parade, and florists all over Canada are kept busy packing the delicate blossoms in attractive boxes, and by request, tying touching bits of sentimental nonsense to the ribbons. Ah, yes, love is so sweet in the springtime! Read Tennyson's Locksley Hall.

While we're on the subject of roses, the token of that vital, intangible force that, it is said, makes the world go round, let us look at some of the legends that have been woven around the flower. The Persians, whose roses, incidentally, are among the most beautiful to be found anywhere, have some interesting stories about these lovely blossoms. One goes like this:

"When the soft winds whisper and gently caress the roses in the Persian gardens, the nightingale begins his song. All through the long dark night he pours out his love for the beautiful flower in streams of liquid music. When Allah crowned the rose queen of all the flowers, the bird flew passionately towards her, pricking his breast on her thorns, and spilling his warm blood over her white petals. So the first red rose bloomed."

Today in that far Eastern land the nightingale still sits all night pressed close to a rose thorn, singing his throbbing love song. As he sings the buds open into their full loveliness, breathing their exotic fragrance into the thick night air. But comes the dawn! The nightingale is found lying under the rosebush, overcome with weariness and the heavy perfume of the flowers.

Another legend tells how an angel came to earth to devote the entire day to making people happy. At night he rested beneath the shadow of a rosebush. He awoke refreshed, and asked the rose if he might offer her a gift in return for her shelter and her perfume. The rose answered 'You have praised my beauty. I would like the world to know that I can hear sweet words without becoming too vain!'

The angel gently touched the velvety petals, and her stems and buds were clothed with a delicate, downy covering. She became the first moss rose.

Stories all - but such tender, colourful stories that befit the "queen of all the flowers" as they could no other blossom. Roses have lost none of their ancient appeal and fascination. Today in hundreds of gardens and greenhouses here in Canada roses are cultivated for their unique fragile beauty and redolence.

In 1940 over 552,000 commercial rose bushes were grown in the Dominion, having a market value of almost \$93,000, and over 15 million cut flowers valued at \$758,000.

No. 248 -- Thurs. June 5, 1941 -- Removing Travel Restrictions

Word has been received by Honourable J. T. Thorson, Minister of National War Services which includes the Canadian Travel Bureau, that the American Government has taken an important step to facilitate travel of Canadian residents of the United States to Canada by relaxing certain restrictions which made it difficult for them to spend their holidays in the Dominion. The text of the Order, granting these new concessions to Canadians and other non-Americans resident in the United States, has just been printed in the Federal Register, the official publication of the United States Government.

Prior to the passage of these more lenient regulations, Canadians living in the United States had to secure a re-entry permit from the United States Immigration and Naturalization Service before they could re-enter the United States after visiting Canada. It took approximately 30 days to get this permit and a fee of \$3.00 was charged. Because of this inconvenience large numbers of Canadians who make their permanent homes south of the international boundary have not visited Canada since the outbreak of war.

Under the new regulations Canadians resident in the United States who wish to visit Canada will be permitted to do so by securing a border crossing card for which no fee is charged and which can be secured without delay. Any Canadian resident in the United States now desiring to visit Canada has only to arm himself with three photographs, size 2" x 2", present himself to any office of the United States Immigration and Naturalization Service and he will be given a border crossing card immediately. Each member of a family making a visit will have to secure one of these cards. When no United States Immigration office is situated in the community where an individual lives the cards can be secured at any such office which the intending visitor passes while en route to Canada.

This Order refers only to Canadians resident in the United States and does not affect American citizens who, of course, are entitled to come to Canada without passports, re-entry cards, border crossing cards or anything else. All they need are the usual documents such as birth certificates or tax bill receipts etc. which would establish their status as American citizens when they are re-entering their own country.

No. 249 -- Fri. June 6, 1941 -- Save the Bacon

The United Kingdom needs bacon. Remember that Denmark and the Netherlands, two of the greatest suppliers of bacon, have been cut off by Germany. So the Government is asking the Canadian people to go light on bacon for a few months, so that the supply to the United Kingdom can be stepped up.

In the first agreement with the British Ministry of Food (1939-40) the minimum quantity of bacon, hams and other cuts stipulated was for 291,000,000 lb. Not only did Canada supply this with unfailing regularity but sent 40,000,000 lb. in excess, making a total of 331,000,000 lb. for the year ended October 31, 1940, and undertook by a second agreement with the British Ministry, to furnish 425,600,000 lb. of bacon and hams by October 31, 1941.

Now the British Ministry has asked Canada to speed up the delivery so as to fill the contract, if possible, by September 15, or six weeks ahead of the full period. Consequently, in order to cope with this request, Canadians have in turn been asked to eat less pork of all kinds, including bacon and hams, for three months, so as to enable the Board to have sufficient supplies to meet the British requirements.

Mere figures do not give any inkling of the problems and perplexities inherent in such a vast undertaking, but several facts stand out. The control of the Canadian bacon trade through an official board marks a new departure in Empire bacon trade relations. For many years, the export policy of Canada has been aimed at establishing Canadian products in large volume and uniform quality to the British market, as well as to reduce price fluctuations to a minimum. In a short space of time the Board has been able to reach most of these objectives on behalf of the bacon industry, and the control exercised has placed Canada years ahead in reaching the ultimate aims.

Regularity of supply has been achieved; specific volumes have been contracted for and successful measures have been taken to fulfil those contracts; a high degree of standardization of processing practice has been reached; a closer price relation between hog prices and bacon values has been secured, and a level in the line of market prices never before experienced has been maintained. In short, there has been developed in war time, an expert technique, which, perhaps with some minor adjustments, should be equally effective and desirable in times of normal export trade and competition. If the essentials of Canada's present export sales policy should not be retained when peace comes, it is fair to state that Canada would be taking a long step backward instead of forward.

No. 250 -- Sat. June 7, 1941 -- Ant Insecticides

A siesta on a couch on a verandah last Sunday afternoon was disturbed. The sleeper awoke to find three ants having a high old time on his bare forearm and another cavorting up the sleeve of his shirt. Next morning he phoned the Entomological

Branch of the Department of Agriculture and the following interesting dissertation upon ants and how to battle them was received. No doubt many readers will appreciate the information.

Ants will feed on many kinds of foodstuffs, but are particularly fond of sweet and fatty substances, and will quickly find their way into homes where their favourite foods are left exposed. One common and troublesome species, a tiny reddish ant known as Pharaoh's ant, frequently establishes its nests indoors, between the walls or in other secluded places where it is difficult to find.

The common large black carpenter ant although normally an outdoor species nesting principally in decaying wood, frequently occurs in dwellings, particularly frame houses and summer cottages, and may cause injury to woodwork as well as annoyance by its presence. The work of these carpenter ants is often mistaken for termite damage. Termites cause serious losses farther south; but in Canada they have been found only in a few localities, notably in British Columbia, and, so far, they are of no importance in this country.

In addition to the ants mentioned there are several common species which make their nests in lawns and gardens. These, too, often enter houses in search of food.

To discourage ants from invading dwellings it is important not to leave attractive food materials exposed. Shelves, tables and floors, especially in dining rooms, kitchens and pantries should be kept clean and as free as possible of crumbs and other food fragments.

One of the most effective insecticides to control ants is sodium fluoride which may be purchased from druggists or seed merchants, in the form of a fine white powder. This powder should be scattered or dusted in places frequented by the ants and left undisturbed until the insects have disappeared. As sodium fluoride is a poison, care should be taken to prevent children or pets from having access to it, and it should not be put near foodstuffs.

A safer material which has been used recently with success is powdered Derris. This is made from the ground roots of certain tropical plants and contains a very potent insecticide known as rotenone. Derris is comparatively harmless to humans and may be dusted around wherever the ants occur. It is reported to destroy ants in nests outdoors as well as indoors.

A poison bait trap which has given good results, especially against the tiny red Pharaoh's ant, may be made by taking a small tin can with a tight lid, punching several holes in the sides and top and introducing a small piece of sponge and a small quantity of a syrup prepared by mixing one gram of sodium arsenite, 8 ounces of sugar and $\frac{1}{2}$ ounce of honey in one pint of hot water. The worker ants are greatly attracted to the bait, and take it to their nests to feed the larvae and queens. Thus whole colonies are destroyed.

Whole ant colonies in the garden or lawn may be destroyed by puncturing holes in the ground and pouring in several tablespoonfuls of carbon bisulphide. Heavy gas is given off by this liquid and its effect may be enhanced by covering the nest with an old coat or sacking. Care should be taken not to expose carbon bisulphide near fire as it is very inflammable.

Calcium cyanide dust is frequently used for destroying ant colonies. Holes are punched in the nest several inches apart to a depth of about six inches; a teaspoonful of the dust is poured into each, and the holes are plugged with soil, and the nest covered with bags or similar material to retain the gas. The cyanide should not be allowed to come into contact with the grass as it may burn it. The quantity to use depends on the size of the nest. Calcium cyanide is extremely poisonous and should be handled with great care.

Small nests may be treated by injecting into them a small quantity of fly spray. Derris powder when scattered on the nests is also reported to be effective.

No. 251 -- Sun. June 8, 1941 -- Milk Zoning

The great increase in the cost of milk to the Canadian consumer in the past few years invites one to consider what other countries are doing in that respect. New Zealand, for example, is one of the very great dairying countries of the world, and the following communication from the Canadian Trade Commissioner in that country will be read with interest and perhaps with profit. The subject is "Milk Zoning". He says:

"A system of milk zoning has been established throughout New Zealand in an effort to eliminate waste in the use of gasoline and to effect economies in the distribution of milk. A substantial proportion of the milk consumed in this country, even in the largest cities, is delivered as loose unpasteurized milk by small dealers owning their own cows or drawing their supplies from wholesale milk dealers. Pasteurized bottled milk is available in most centres at premium prices; however, most New Zealanders prefer loose raw milk.

"Zoning was arranged on a gallonage basis; each district was allotted to one milk vendor, and every resident in that district was obliged to obtain his milk from this official vendor or carry his own milk from a licensed retailer. Most people were obliged to take milk from a new milkman, and there was considerable dissatisfaction with the whole scheme. However, in six months of zoning most of the difficulties have been smoothed out, and dealers who took unfair advantage of their monopoly have been brought into line and in some cases have lost their licenses.

"As a result of the economies in delivery, the Auckland Milk Council have been able to reduce prices by 1d. per quart to 6d. a quart (9 cents Canadian) for loose milk delivered, and to 6½d. per quart for bottle milk delivered. The mileage covered by milkmen in the metropolitan area of Auckland has been reduced from 3,125 miles per day to 1,036 miles per day, and the gasoline licenses required have been reduced from a monthly total of 11,338 gallons to 9,093 gallons."

No. 252 -- Mon. June 9, 1941 -- Sassafras Tea

Despite what the ultra young modern may say to the contrary, Grandma did have a few smart ideas tucked away under her bonnet. One of her quaint notions that failed to survive the swing from home to factory-made products around the turn of the century, was her Sassafras tea.

Sassafras tea was Gram's old standby - a sure cure for practically any ailment from Spring fever to strawberry rash. If the family was not ill, then they were served sassafras brew to keep them well. Her faith in its powers was deep rooted and unshakable. But don't imagine that the family offered any objections! On the contrary! When sweetened with honey or sorghum and served hot, sassafras tea had such a taunting aroma that it made one eager for the first gulp. So, medicine or not, it was not hard to take.

Now the sassafras tree, like camphor, is a member of the laurel family, and one of the most versatile trees known. There is only one species, and it is to be found in China and the eastern portion of North America. In Canada it is limited to southern Ontario, from the vicinity of Toronto westward to the southern end of Lake Huron. However, it is near the Lower Mississippi that the sassafras attains its greatest size, growing to a height of over 100 ft. The bark is thick and grey and the shiny, green leaves range from oval to "mitten shape". The flowers dangle in tassel-like formation and are honey-colored and honey-scented, while the berries, though seldom seen before the birds make away with them, are a brilliant dark blue. The whole tree is aromatic and there is a legend that on his first voyage Columbus caught the scent of sassafras in the air as it was wafted seaward, and was thereby convinced that land was near.

But, getting back to Grandma and her tea. This concoction of hers was made by infusing the tangy young shoots and roots. The brew was stimulating and an approved remedy for colds. She used sassafras in thickening her soup, and perfuming her soap, and even as a yellow dye for countless household purposes. Not to be outdone, Grandpa often chewed the gummy, bitter leaves of the sassafras instead of tobacco, and probably imbibed them in a brew of his own making, somewhat stronger than the kind Grandma was wont to prepare.

The leaves, bark of the twigs and the pith are rich in mucilage, and make a lubricant for oculists. The wood itself is orangy brown colored, soft, durable, and has a pleasing grain. Although it is not used commercially to any large extent, it is sometimes sawn into lumber and used for cabinet work.

No. 253 -- Tues. June 10, 1941 -- Hedges

There is probably no landscape feature in which opinions are so decided as they are in the matter of hedges. You either like them or you don't. A well-cared-for-hedge makes a more pleasing defining line than an unadorned wire or picket fence.

Hedges may be used for a variety of purposes; for screening off unsightly views, some of the taller shrubs such as mock orange, lilac, Siberian pea and numerous others may be planted three or four feet apart and pruned merely enough to keep the plants shapely. The same class of material toned down with such medium height shrubs as Bridal Wreath is ideal for enclosing a particularly desirable part of the garden.

Other uses for hedges are as defining lines between flower and vegetable gardens or in place of a fence between two adjoining properties. A hedge is not only an ideal background for perennials, but also assists in holding snow on the bed or border, thereby providing protection for the plants.

For a sheared deciduous hedge it would be difficult to find a more suitable plant than common privet. It leafs out early, holds its leaves quite late, and can

be trimmed to a variety of shapes. Unfortunately it kills back slightly during cold weather in Eastern Ontario. Alpine currant is an excellent hedge plant for a shady location. Japanese Barberry is an ideal low hedge plant, and is much more attractive if only the straggly branches are removed than if sheared to a uniform length.

Among evergreen trees that may be treated as hedge plants the following are most commonly used: white cedar, white spruce, and Norway spruce. Red cedar is occasionally planted, and Japanese yew appears to be gaining favour.

To have a hedge within a reasonable time it would be advisable to plant fairly close. Recommendations vary on this question, but for most shrubs to be clipped, eighteen inches would be satisfactory, with twenty-four inches between most evergreens. When clipping a hedge an attempt should be made to keep the top narrower than the bottom. This exposes more leaf area to sunlight and helps to keep the hedge healthy.

No. 254 Wed. June 11, 1941 Manufacture and the War

Manufacture, in the crises of war, assumes vast importance. In order, therefore, that readers of the Fact a Day may gather some idea of what manufacturing can do and is expected to do, there is reproduced here a speech which the Hon. James A. MacKinnon, Minister of Trade and Commerce, made to the Canadian Manufacturers Association at its annual meeting. Mr. MacKinnon said:

To my mind, manufacturing is a great cooperative undertaking. It makes complete the three fold alliance of the primary producers, the makers of finished products and the consumer. It operates in peacetime as a process of welding, drawing us all closer together, entering into all our activities and spreading out to far corners everywhere.

In time of war the manufacturing industry is even more cooperative, for it provides the sinews that lead us to victory, as it most assuredly did in the last Great War and will in this. It becomes a concentration of energy leading to one definite goal, the supplying of our armed forces with all that they require for the great purpose. The cooperation of the manufacturer in a democratic world becomes overwhelming in its strength when it has been geared to full wartime production. Manufacturing has reached an extraordinary degree of cooperative planning and execution in this country at the present time.

There can be no ulterior motive in the effort which is being put forth because there is certainly no great personal gain to be looked for in these days of stress. I have had a special opportunity of observing the attitude of those who are engaged in the business of furnishing the products which will win for us the road to victory and I assure you that I have heard no murmur from any manufacturer against the limits by which we have curtailed the possibilities of undue profits. For this reason the efforts of the manufacturing industry are all the more commendable and are an exhibition of real patriotism.

I am a member of a subcommittee of the Cabinet on war orders and expenditures and I know very definitely how closely the Government is buying and how finely contractors and suppliers are figuring.

I think at this time, when war is upon us and slaughter seems to be the only open avenue to world peace, it would be well to consider clearly what should be the high purpose of commerce, - to take a broad look at what the pursuit of trade has accomplished, - the bridges which will have to be repaired when this war is over. It seems to me that we should look at the world situation so clearly that we shall be prepared to enter into a new international commerce, so regulated and conducted that peace and prosperity will abound.

Fair trading should be our objective; fair trading and unswerving integrity in our dealings, is the goal that will accomplish more for peace than any other motive power.

I will not dwell upon ethics but I do wish to direct your attention to some outstanding things in the record of Canadian trade and commerce and the part which the Canadian manufacturer has played in its development.

No. 255 --- Thurs. June 12, 1941 --- Early Manufacturing

The first settlements in this country, said Mr. MacKinnon, resulted from the visit of adventurous Breton fishermen who had come across the Atlantic for cod for the French dinner table. When settlers arrived the need for native industries began. French millers were the first manufacturers. The men cut the stone for the crushers, built ramparts and edifices and the Indians taught the newcomers the mysteries of maple syrup and corn meal. That was the foundation of Canadian industry, of Canadian manufacture. It was founded upon the primary needs of the people - food, clothing, shelter and protection.

Since the earliest settlements, the two main influences which have governed the development of manufacturing in Canada have been the domestic requirements of the growing Canadian population and the processing of our natural products to change them to more suitable forms in order to attract the export market. Ours has always been, and still is, a comparatively small home market, a large part of it in scattered agricultural areas, and therefore there has been a limit to the range of goods that may be economically manufactured in Canada for our home market. Even 40 years ago a considerable part of our manufactured products was for export.

As the Canadian population increases and the facility for distribution improves, the range of goods that may be efficiently manufactured for the home market is being constantly widened. Manufacturers have been fully awake to the possibilities thus afforded. For the information of the officers of the Department of National Revenue memoranda are issued periodically covering "Made in Canada" rulings and it has been extremely interesting to me to see the number of products, of which notice has been received in my office in the last six months, that have been transferred from the category of a class or kind "Not Made in Canada", to that of a class or kind "Made in Canada". In total production these items may not be extensive but they show a very interesting and, to my mind, most desirable, trend.

As our industries have developed, a striking trend has been the ever increasing importation of raw materials, not native to Canada, for manufacture to meet our own requirements - this in contrast to the importation of finished products from other countries which in earlier years was the rule. From this, a natural development has been the use of those importations to manufacture for the export trade goods

which were not a natural product of this country - thus increasing our trade possibilities.

No. 256 -- Fri. June 13, 1941 -- Manufacturing Finds Itself

The first decade of the present century, continued Mr. MacKinnon, was the period in which Canada really found herself as a prospective great power in international commerce. Manufacturing and engineering came to full stature in that period and laid the foundations for the expansion in commercial activity that has placed this country in its present remarkable position as the third or fourth exporting nation of the world.

At the beginning of the century the gross value of the manufactured products of fewer than $5\frac{1}{2}$ million people was about \$480,000,000. By 1910 the gross production of about 7 million people had gone well over the billion dollar mark. Four years later (1914) the production was estimated at about \$1,250,000,000.

While we must make a distinction between peacetime and wartime activities in manufacturing, it is I think remarkable that by the end of the Great War the production of our factories had a value of over \$3,250,000,000.

For a time after the close of that War, because of the requirements of people whose needs had been curtailed, by the long conflict and the necessity for the most rigid economy, our manufactures continued at a high level. As a result in 1920 the production of our factories was about \$3,750,000,000.

Then followed a natural recession but this was of brief duration and by 1929 our production had risen to nearly \$3,900,000,000. I need hardly mention that the depression which followed 1929 affected manufacturing as seriously as every other branch of business in this country but by 1939 our production was almost at the 1929 peak at nearly \$3,500,000,000. Although we were engaged in war in four months of 1939, our manufacturing production was only slightly stimulated in that year by war demands and, in only the textile, food and chemical industries, was there any particular advance. The figure of \$3,500,000,000, therefore, is a fair measure of our peacetime production.

I suggest that such a production is a long way from the less than 500 million dollars which our records show was being produced at the beginning of the century. Because the figures which I am about to give tell a real story, I think they may interest you. They are not definite but are taken from an advance report of the manufacturing industries of Canada for the year 1939. Our manufacturing establishments in that year numbered nearly 25,000. They had a capital investment of \$3,650,000,000. They furnished employment to nearly 660,000 persons and these were paid in salaries and wages over \$737,000,000.

As an example of the acceleration of our manufacturing industries, I might say that an estimate places our 1940 production at \$4,500,000,000. This exceeds the production of 1929, the greatest ever attained, by 16 per cent and clearly shows the potentialities of our manufacturing industries.

I do not want to weary you with figures because I know how hard it is to follow them in an address of this sort, but I have been intensely interested in the information which has come to me in regard to the manufacturing industry. I find, for instance, that of the total production of 1939, nearly 20 per cent consisted of the manufacture of vegetable products. The production of our wood and paper industries was nearly an equal amount. Our iron and steel products formed 16 per cent of the total; other metal products 12 per cent; animal products approximately 13 per cent and textile products approximately 11 per cent. I found also that nearly 4,000 different products are made by the manufacturers of Canada, a list I suppose hardly excelled in Great Britain or in the United States.

No. 257 -- Sat. June 14, 1941 -- Progress of Manufacturing

I have dealt with the growth of the manufacturing industry and the highlights of that growth as I have seen it. Your progress has meant progress in our export trade which, as Minister of Trade and Commerce, is my particular field. The percentage of our exports of manufactured products to total manufactures have peculiarly enough maintained a parallel percentage from year to year.

Prior to the Great War from 12 to 14 per cent of our manufactured products went to the export market. Since the impetus which was gained through the war activity of 1914-1918, our manufacturers have exported from 18 to 20 per cent of their products in the last two decades.

International trade is the mirror of a country's progress and standing in the world. Canada, prior to the outbreak of this war, had attained an enviable position for a country of approximately 11½ million inhabitants. The whole world then, of course, was open to our traders. Today the markets of Europe are closed and we have had to strengthen our contacts with other countries in other parts of the world. In wartime the power of a nation is shown by its ability to keep commerce flowing. The figures for our export trade today show clearly that Canada has that ability and, in accomplishing that purpose, the manufacturers of Canada have had a real part.

The greater portion of our export trade at this time is, of course, with the United Kingdom and with the United States, but despite the fact that the European market is closed, our exports to countries other than the United States or the United Kingdom in the first four months of this year were nearly 20 per cent of our total, or approximately 75 million dollars. The possibilities for increased trade under present conditions are, of course, limited not only by markets but by shipping facilities, and it has been a remarkable thing to me the way our exporters (who in the majority of cases are our manufacturers) have met and overcome the difficulties which have presented themselves.

One part of the world with which we have tried to increase our trade has been in the Caribbean and with the Republics of South America. It may interest you to know that our trade has increased with the British West Indies nearly 55 per cent; with Argentina over 60 per cent and with Brazil over 68 per cent in the first four months of this year, as compared with the same period of 1940.

No. 258 --- Sun. June 15, 1941 --- Task of the Manufacturers

I am not unmindful of the task which is presently before us, concluded Mr. MacKinnon. The manufacturers of Canada rose to great heights when the last Great War was upon us. They supplied vital needs. It was co-operation and patriotism to the greatest degree and they participated in the victory to an extent that can never be properly estimated, although fairly well understood and appreciated. Once again the call has gone out to harness our machinery of production in the cause of true democracy. We are facing not only Germany but the enslaved power of the conquered countries as well. That, however, will not intimidate the free peoples of this country or of other parts of the British Empire.

If we are to be victorious and overcome the full weight of the forces which are against us, then nothing must be left undone in this country to ensure victory. As in 1914-1918 more depends on the manufacturers of this country than the average person realizes. Those of you whose plants are already in full war production, those who have been asked to make sacrifices by changing your production or making available your full facilities to the Government at this time, or those of you whose ordinary endeavours have been cramped by necessary restrictive measures, all know just what this country is demanding of your particular class. This struggle cannot, however, be in vain. If it were to be, everything that we have worked for, everything that our forefathers had struggled for, will be lost. Speed is, of course, essential and our effort has steadily crescendoed and speeded up in a remarkable way.

I firmly believe that, following the successful conclusion of this war, as was the case following the last war, the manufacturers of this country will find themselves in a better position to go on to greater attainments because of the effort which has been forced upon them, because of war necessity.

I leave with you, therefore, these thoughts - the utmost endeavour by those manufacturers who can in any way play a vital part in our war effort, equally as valuable, the holding and extending of our overseas trade by those who may still be able to turn the output of their plants in that direction - behind it all, sound constructive thinking as a basis for that period of reconstruction which will come and I hope shortly, so that the manufacturers of this Nation can carry Canada to greater heights of prosperity in the years that are to come, after the victory has been won.

No. 259 --- Mon. June 16, 1941 --- Copper and Zinc Salvage

Do you know what the millions of shell cases being turned out by Canadian munitions factories are made of? They are made of brass. From rifle and tommygun cartridges to the shell cases for the 25 pounder guns, they are made of brass. And do you know what brass is? It is an alloy of zinc and copper!

There you have the clue to the importance of zinc and copper salvage in Canada. There you have the reason why Canada's 2,400 local salvage committees are exerting themselves to collect every scrap of these essential materials.

Copper salvage takes many unusual forms. There are all sorts of copper articles around the average home which can and are being turned back to industry. And there is also copper wire.

It is a common sight. It carries light to our lamps, messages to our phones, heat to our stoves and fixtures.

This same copper wire is fairly valuable. It is not less than one-third pure metal. And stripped of its cumbersome insulation, that metal may be sent straight back to industry for immediate re-use.

The routine for accomplishing this sort of salvage is vastly interesting. The first step is the collection of the wire from all sources. This is the chore of the voluntary salvage workers. They gather it up by handfulls from old houses that are being wrecked, from factories undertaking reconditioning, from telephone exchanges, from construction jobs, from homes discarding broken electrical fixtures and extension cords.

The second step is the sale of the small lots to the large junk dealer who has storage facilities. When the latter has accumulated a truck load, he sells it to the salvager who has the equipment to reclaim it.

That is the third step. First the insulation has to be removed. This is done by fire, at a controlled heat which does not destroy the metal. Most insulation is self burning. When the insulation is burned away, the snarls of wire are shaken out with a fork. The pure metal is now available. A load of six tons of wire produces a little more than two tons of metal.

This metal is piled into huge, square jute bags, each bundle weighing about 1,800 pounds, for shipment to a copper refinery and thence to war industries.

Zinc is also a sinew of war, and although Canada is the third largest zinc producer in the world, her position in regard to zinc is not as satisfactory as it might be.

The situation, in fact, is so strained that the Department of Munitions and Supply since last April has restricted the movement of zinc. Export of virgin zinc in any form is permitted only under exceptional circumstances. No licenses are issued for the export of zinc dross, zinc scrap, or re-melted zinc. A minimum price has been set on zinc dross.

About 75 per cent of Canada's zinc comes from the Sullivan mine in southern British Columbia, probably the world's greatest zinc mine. Twenty per cent comes from Flin Flon in Manitoba and Saskatchewan. Both mines have their own associate refineries. Small quantities of zinc come from other B.C. mines and from two mines in the Rouyn district of Quebec.

Zinc is used for batteries, zinc carbonate and cyanide, paints and varnishes, stearate, engraving plates. Zinc is also used in the manufacture of brass.

This is where salvage plays a further part in Canada's war effort. There is still a considerable amount of reclaimable zinc loose across Canada. It is in the form of old batteries, fruit jar tops, and the like. Voluntary salvage workers are rounding up as much of it as they are able.

No. 260 --- Tues. June 17, 1941 --- Equipping Service Men

Some conception of the gigantic purchasing task of the Canadian Government may be gained from the fact that no less than 337 separate contracts have been awarded to companies scattered across Canada from coast to coast for the manufacture of components of the personal equipment of the Canadian soldier. While no accurate figures are available, possibly 75,000 to 100,000 workers in some 70 Canadian communities, large and small, are employed at least part time in the making of what the soldier wears or the equipment he carries.

The equipment of a single soldier for service in the field --- his battle dress, steel helmet, gas mask, rifle and bayonet, haversack and contents, web equipment, eating utensils, water bottle, ground sheet, greatcoat, cap, boots, socks, shirts, clasp knife, cartridge pouches, pay book, identity disc, and a number of minor items costs in the neighborhood of \$120. Almost every item is made in the Dominion.

A respirator, for example, is a much more intricate piece of equipment than might be indicated by outward appearance. The type worn by the Canadian soldier is of Canadian design. Lieut.-General A. G. L. McNaughton, commander of the Canadian forces overseas and president of the National Research Council, and the late Sir Frederick Banting carried out a great deal of research in connection with it. The mask comprises more than 40 components, which are manufactured in 67 plants and assembled in a central factory in Quebec.

The steel helmet, too, was designed in Canada and is said to be one of the best in the world. The helmet is stamped from a light, special alloy steel plate. It will repel a .45 calibre special jacket bullet fired at a range of three feet. The helmet is fitted with a carefully designed anti-shock lining.

A set of web equipment consists of 22 pieces. Never manufactured in Canada before the war, web equipment is now being made in two plants in the Dominion. The pioneer manufacturer, whose plant is situated in an Ontario town, employs about 1,500 persons and makes nothing but web equipment.

A partial list of Canadian communities which share in the manufacture of personal equipment for the Canadian soldier follows: Amherst, N. S.; Aurora, Barrie, Brampton, Bronte, Burritt's Rapids, Campbellford, Carleton Place, Chatham, Cornwall, Dunnville, Eastview, and Elmira, Ontario; Fredericton, N. B.; Galt, Gananoque, and Georgetown, Ont.; Granby, Que.; Guelph, Hamilton, and Hespeler, Ont.; Hull and Joliette, Quebec; Kincardine and Kitchener, Ont.; Lethbridge, Alta.; London, Ont.; Marieville, Que.; Midland, Ont.; Moncton, N. B.; Montreal, Que.; New Toronto, Ont.; Oshawa, Ottawa, Paris, and Perth, Ont.; Plessisville, Que.; Preston, Ont.; Quebec City, St. Hyacinthe, St. Jerome, St. Lambert, Que.; St. Mary's, Ont.; St. Tite, Que.; Stratford and Tavistock, Ont.; Three Rivers, Que.; Toronto, Ont.; Truro, N.S.; Vancouver, B. C.; Victoriaville and Village Huron, Que.; Vittoria, Ont.; Walkerville, Waterloo, Watford, Welland, West Toronto, and Windsor, Ont.; Winnipeg, Man.; Woodstock, Ont.

No. 261 --- Wed. June 18, 1941 --- Death on the Highways

"Death Stalks the Highways" --- a perennial warning to motorists that stands good more than ever today with automobiles affording the principal means of transportation for thousands.

Judging from statistics, the number of deaths from motor accidents in Canada is increasing annually, having reached in 1940 an all time high of 1,709, or a rate of 15 out of every 100,000 of the population. Of course, while the number of casualties is increasing, it must be kept in mind that the number of automobiles is also growing larger, so that a greater quota of accidents is only to be expected.

Ontario, the province with the largest population, recorded a death rate last year of 19.8, the highest for the Dominion. With the exception of the year 1937, this was the highest in the history of that province. Surprising as it may seem, Nova Scotia, the land of the apple blossoms, ran Ontario a close second in this gruesome race, chalking up a death rate of 18.6. This figure is alarmingly high when you consider the relative size and population of the province in comparison with the others. Canada can doff her hat to the Prairies for care and safety--first on highways and byways, Saskatchewan and Alberta boasting the low rates of 6.2 and 9 respectively.

The summer and fall months have proven to be the most bountiful for the "Grim Reaper", varying, however, with the province. For example, September for Ontario motorists is by far the most hazardous month of the year; for New Brunswick drivers it is June; in Quebec August seems to be the dangerous month, while Nova Scotians should take special care in October.

All these figures make convenient material for those who have been, are and always will be "down" on the automobile, arguing that motor cars are the most dangerous means of travel, and that we were far happier before this inane craze for speed disrupted the even tenor of our humble existence. While the principle of their argument may be entirely wrong, it would appear that they have statistics upon which to build a case.

No. 262 --- Thurs. June 19, 1941 --- First Canadian Bomber Squadron

The first Canadian bomber squadron has been formed in the United Kingdom. It is manned by Canadians who are in the R.A.F. and others belonging to the Royal Canadian Air Force who have been trained under the Empire training scheme.

It is led by a Wing Commander D.F.C., who left his home in Fort Pelly, Saskatchewan, six years ago to join the R.A.F. He used to work for a mining concern, and flew in his spare time. "I spent many bucks learning to fly, whereas if I'd waited I could have been taught free" he says. He has taken part in most kinds of Bomber Command operations from leaflet raids in the early days of war to intensive attacks on enemy towns.

One of his squadron leaders has also won the D.F.C. and was also in mining. He comes from Edmonton, and mined for gold, radium and silver at Great Bear Lake. He joined the R.A.F. in 1937, and since the war has piloted bombers over Norway -- "where you couldn't tell the difference between a mountain and a cloud" -- over France (during the German invasion) and over a great variety of targets in the Ruhr and other parts of Germany. He returned to Canada a few months ago to take part in a navigation course, and ferried back a Catalina flying boat. The citation for his D.F.C. spoke of his "patience in finding targets, and determination in attack."

Another Squadron leader joined the R.A.F. straight from college in 1936 when he was 19. He, too, has taken part in some of the most devastating raids over Germany and the channel ports.

"Nothing ever happened to me" he says, "never got shot up, never had to bale out, never had to make a forced landing." He has a long list of successful attacks to his credit, however, especially on Hamburg and industrial targets in the Ruhr.

In contrast with this long service are the Pilot Officer and the Sergeant Pilot, who have been in this country only a few months. They wear the "flash" of Canada on the shoulders of their tunics and have the letters R.C.A.F. on their buttons. The Pilot Officer used to be the export manager of a machinery manufacturing firm in Winnipeg.

After a year's training in Canada he came over to this country. And had only been here a few weeks when he was caught in a London blitz.

"That was my first experience of bombing, but I got my own back when I went over Cologne two months later as a second pilot" he says. "It was a fine trip, good weather all the way, and we left Cologne a beautiful mess".

The young Sergeant Pilot was a stenographer in Toronto when he volunteered for the R.C.A.F. "I wanted to be free to join the moment they called me, so I went into my brother's tailoring business" he explains. He joined the National Training School a year ago, started flying last September, and came over to this country in March.

No. 263 -- Fri. June 20, 1941 -- Celebrates Anniversary of Arrival

The No. 1 Royal Canadian Air Force Fighter Squadron celebrates the anniversary of its arrival in Britain a year ago today. During the year it has accounted for over 50 enemy machines.

The squadron did not go into action, in its own Canadian-built Hurricanes, until August 24 of last year -- during the Battle of Britain.

Squadron Leader B. A. McNab, leading the squadron had, however, opened the score the previous day when, up for battle experience with an R.A.F. fighter flight, he attacked a Dornier and shot it down. The first enemy machine to be destroyed by the Royal Canadian Air Force. As a unit the squadron tasted its first victory by destroying two Dornier bombers.

On the historic day of September 15 when 185 enemy aircraft were destroyed over Britain, according to Squadron Leader McNab 14 enemy aircraft were destroyed. "There were so many aircraft in the sky" he said "that there was as much danger of colliding with another fellow as there was of being shot down. There were more than one thousand aircraft in the sky just south of London."

After the Battle of Britain the squadron was visited by Air Vice Marshal "Billy" Bishop, V.C., D.S.O., M.C., D.F.C., the famous Canadian ace of the Great War, who was on a visit to Britain. His visit coincided with the squadron's fiftieth Luftwaffe victim.

No. 264 - Sat. June 21, 1941 -- Tree Planting in Western Canada

In the past 40 years, the Dominion Forestry Stations at Indian Head and Sutherland, Sask., have distributed a total of 180,000,000 broad leaf trees and 3,600,000 evergreen trees free to farmers, and shelterbelts have been planted on 65,000 farms in the three Prairie Provinces -- Manitoba, Saskatchewan and Alberta.

The development of the Government Prairie Tree Planting Policy dates from 1899 when the encouragement of tree planting as an aid to farming on the Prairies was urged on the Dominion Government. As a result, meetings of farmers were held throughout Manitoba and the North West Territories at the principal points of settlement in 1900. No great enthusiasm was aroused at the meetings, as the settlers and farmers generally considered it impossible to grow trees on the Prairies, because the trees brought by the settlers from Eastern Canada had not survived and further at that time nursery companies operating from Minnesota and the Dakotas had agents travelling through the west selling nursery stock which in most cases was unsuited to the Canadian climate.

However, with the definite establishment of the Dominion Forestry Branch, a co-operative tree planting system and set of regulations were worked out, and, so as not to compete with regular commercial nursery enterprises, it was decided that the distribution of trees should be limited to the establishment of shelterbelts on farms, and that no trees be supplied within the limits of any town or village where the trees would undoubtedly be used for ornamental purposes only. In 1900 a total of 58,800 trees were purchased and distributed to applicants, 35,000 of the trees going to the North West Territories from the Manitoba boundary to the foothills of the Rockies, and 23,800 being distributed in Manitoba.

After this distribution, ground was set apart at the Indian Head and Brandon Experimental Farms to sow seed of maple, ash, and elm, and to plant several thousand cuttings of willow and poplar in order to assist in the next distribution in 1902, when 468,900 trees were distributed to 415 farms. As it happened the only stocks large enough for distribution were of maple, and again purchases were made from a commercial nursery at Brandon and from one at Virden, Man.

With the increasing demand, arrangements had to be made for propagation of stock entirely under the Forestry Branch control, so 160 acres were taken up adjoining Indian Head in 1903. The general layout was completed and buildings erected in 1904, the first actual plantings being made in 1905. In 1906 an adjoining quarter section was added and three or four years later, still another quarter section, so that now the Indian Head Station occupies 480 acres. Owing to the increasing demand for trees a half section of land was purchased at Sutherland, and by 1917 a total of 8,400,000 trees had to be distributed that year.

No. 265 -- Sun. June 22, 1941 -- Care of Wool Important

As has been pointed out many times, sheep, regardless of breed or grade, make a perfect job of growing their wool. Defective wool is always the result of carelessness, either in pasturing or feeding.

Burrs are usually the first cause of defective wool, and the damage invariably takes place in the late summer or fall when the sheep are turned into old orchards, grain fields, or hay fields in which burrs have been allowed to grow and ripen, and

they become attached to the new fleece. The worst type of burr is the old stock, dry and ripe from the previous year. The stems of the burr are brittle and the burrs themselves, being dry, stick more easily into the fleece. It is always a good plan to go around the fence corners in any new field, to explore the orchard, banks of creeks or any neglected spot and remove the burrs before the flock is turned into pasture.

Burrs are difficult to get out of the fleece. They will remain in the wool all winter, and although the wool grows, when the fleece is shorn and properly tied it may look perfect, yet the experienced wool grader will readily detect the burrs. Under the application of wool grading, wool graders have been under the necessity of turning considerable quantities of wool, in some cases fleeces either in part or as a whole, into the reject pile on account of burrs. With wool ranging from 25 to 30 cents a pound according to grade, even with the scarcity of labour on farms, it will pay well to take the scythe or the spade, cut out the burrs, have them piled up and burned so that the sheep are not subject to this menace which accounts for a high percentage of the defective wool produced in Eastern Canada.

At the annual field day of the Ottawa Valley Sheep Breeders' Association, held recently at Carleton Place, Ont., the bad effect of burrs was explained to those in attendance, and it was stated that their control was an easy matter. The plan outlined was to take a sharp spade, and each year cut the burr plants about two inches below the ground. Repeated attention in this way soon caused their eradication and resulted in complete safety for the flock on any farm where such attention is given.

No. 266 — Mon. June 23, 1941 — Eat Less Pork

The Bacon Board, in a statement issued today appealed to the people of Canada to eat less pork of all kinds, including bacon and ham, during the next three months in order that the British needs for more Canadian bacon can be met.

The statement is as follows:-

It will be necessary for the people of Canada, during the next three months to substitute lamb, beef, veal, poultry, vegetables and fruits for pork products of all kinds, including bacon and hams, if the request of the British Ministry of Food for more Canadian bacon is to be met.

At the present time Canadians are consuming the equivalent in pork products of about 44,000 hogs per week. In March and April of this year the consumption was up as high as 54,000 hogs per week. The decrease of about 10,000 hogs per week was the result of the action of the Bacon Board restricting, about five weeks ago, the supply of pork products to the domestic trade to the average weekly consumption of 1940. This had the effect of increasing the supply for export to Britain, but the requirements which the British Ministry desires are not being met, consequently the people of Canada are asked to co-operate and eat less pork products.

It is expected that by next Fall the marketings of hogs in Canada will be sufficient in volume to meet British export requirements and leave plenty for home consumption in Canada

It is felt that this appeal to the people of Canada at this time of the year to eat less pork of all kinds, including bacon and hams, will not entail any hardship as there are abundant supplies of other good foods available which will provide very suitable summer menus.

No. 267 - Tues. June 24, 1941 - Control and Sale of Liquor in Canada

The suggestion is made that, in this time of war, a brief yet comprehensive record of the control and sale of liquor in Canada would be a service to the authorities and to the people of Canada generally. The record has been prepared by Miss L. J. Beehler, M.A., of the Dominion Bureau of Statistics, and some excerpts from her historical summary are as follows:

The first legislative restriction regarding intoxicating liquors in what is now the Dominion of Canada was with reference to their sale to the Indians. In New France an "arret" of 1663 declared that "since the foundation of the colony the sale of liquor had always been prohibited on account of the fury of these people when in a state of intoxication" and imposed further penalties on those continuing the traffic. In the English colonies, too, laws were enacted providing for the imposition of heavy fines or imprisonment for selling or giving liquor to the Indians. Restrictions, more or less stringent, were imposed, too, on the sale of liquor to the white population. The usual method of regulation was the issue by the local authorities of licenses to manufacture or sell alcoholic beverages with more or less strict conditions imposed, the non-observance of which resulted in cancellation of the license.

In the middle of the nineteenth century a considerable agitation for the total prohibition of the traffic in liquor developed both in the United States and in the British North American provinces. This found expression in various enactments designed to lessen the evils of intemperance. In 1853 the municipal councils of Upper Canada were authorized to pass by-laws to regulate licences and to limit their number or to prevent absolutely the sale of liquor by retail within the municipality. These provisions were modified from time to time and in 1866 the various Acts were revised and consolidated. In 1855 the municipal councils of Lower Canada had conferred upon them powers of regulation of the traffic in liquor and prohibition of its sale. In 1856 the county councils were authorized to pass such by-laws for the whole country; if they failed to do so by a stipulated time, the local councils might then act. In 1860 and 1866 amendments were passed extending the powers of the local councils. In 1855 New Brunswick passed a law prohibiting "the importation, manufacture and traffic in intoxicating liquors". Provision was made for the annual appointment in each parish of an agent to import, buy and sell liquors for medicinal, mechanical, chemical or sacramental purposes. The provisions for the enforcement of this Act were so defective, however, that much friction and irritation resulted and it was repealed the following year. In 1864 the Dunkin Act, passed by the Legislature of the United Province of Canada, provided that any municipal council could prohibit the retail sale of intoxicating liquors in townships and smaller localities if the majority of the electors within the municipality declared in favour of the law.

The distribution of legislative powers, as set forth in sections 91-95 of the British North America Act of 1867, left some doubt as to the respective jurisdictions of the Dominion and provincial Governments in regard to the liquor question. Control over the importation of liquor was generally conceded to belong to the Dominion.

As to regulation of the sale of liquor, it was claimed that the provinces had jurisdiction because to them had been assigned "shop, saloon, tavern, auctioneer and other licences in order to the raising of a revenue for provincial, local and municipal purposes"; "municipal institutions in the province"; "property and civil rights in the province"; and "generally all matters of a merely local or private nature in the province". On the other hand, it was claimed that the licences were given to the provinces merely for the purpose of raising a revenue and that, apart from this, they should belong to the Dominion as part of "the regulation of trade and commerce"; or as coming within the scope of "criminal law" or of customs and excise, since, it was argued, the right to import and manufacture liquor implied the right to sell. The Dominion had the right, also, "to make laws for the peace, order and good government of Canada in relation to all matters not coming within the classes of subjects assigned exclusively to the legislatures of the provinces."

No. 268 -- Wed. June 25, 1941 -- Liquor Traffic Question Confused

The uncertainty as to the rights of the Dominion and provincial Governments in regard to the liquor question caused much confusion for several years after Confederation. In Ontario, when the License Law was separated from the Municipal Act and passed as a separate statute in 1869, the provisions as to prohibition by municipalities were not embodied in it nor were they inserted in the Municipal Act when it was revised in 1873. In Quebec, the Municipal Code of 1870 retained the provisions of the old law authorizing municipal councils to pass prohibitory by-laws. In 1869 the Nova Scotia Legislature passed a law providing that no license for the sale of intoxicating liquor should be granted unless the application was accompanied by a petition from two-thirds of the rate-payers of the polling district in which the tavern was to be established. The constitutionality of this law was upheld by the courts. On the other hand, a New Brunswick statute of 1871, providing that no licence should be granted in a municipality where the majority of the rate-payers petitioned against it, was declared ultra vires, chiefly on the ground that it was a regulation of trade and commerce which belonged exclusively to the Dominion.

In 1876 the Ontario Legislature passed a new licence law known as the Crooks Act which took from the municipal councils the power of granting licences and placed it in the hands of three commissioners, appointed by the Government, in each city or electoral district. The Act also imposed further restrictions in respect of tavern licences, hours of closing, etc.

In response to appeals made from time to time for prohibitory legislation that would be applicable to the whole of Canada, the Dominion Government in 1878 passed the Canada Temperance Act, more commonly known as the Scott Act, which provided that, on a petition from one-fourth of the electors in any county or city, an election was to be held and, if a majority of the votes polled favoured the Act, a proclamation would be issued bringing it into force after the date of expiration of the licences then in force. From the date of the adoption of the Act the sale of intoxicating liquors, except as expressly stated in the Act, was prohibited. Provision was made for sales for medicinal, sacramental and mechanical purposes by druggists and other licensed vendors. Distillers, brewers and wholesalers might sell in quantities of 10 gallons and upwards (8 gallons and upwards in the case of wine and beer) at one time to druggists and other licensed persons, or to such persons as they had good reason to believe would carry it forthwith beyond the limits of the county or city or of any adjoining county or city where the Act was in force. Penalties of \$50 for a first offence, \$100 for a second offence and

two months' imprisonment for a third and every subsequent offence were imposed. The Act might be repealed on a similar petition to the above followed by a favourable vote. Decisions either for or against the Act, as decided by the majority vote, were to remain in force for three years. It was further provided that the Dunkin Act should not be brought into force in any new locality and that the bringing into force of the Scott Act should have the effect of superseding any by-law passed under the former.

The constitutionality of the Canada Temperance Act was soon disputed. It was, however, sustained by the Privy Council in 1882 (*Russell v. The Queen*) for the reason that it did not fall within any of the powers assigned to the provinces and was valid as "maintaining the peace, order and good government of Canada". From this decision the inference was drawn that the Dominion had supreme authority over liquor licenses and that the rights of the provinces were confined to raising revenue therefrom. In the session of 1883 the Dominion Parliament passed the Dominion License Act, popularly known as the McCarthy Act, establishing a Dominion system of hotel, shop, vessel and wholesale licences. This Act, made applicable to all parts of Canada where the Scott Act was not in force, followed largely the lines of the Crooks Act and was, in many respects, more stringent than the licence laws of several of the provinces.

In 1883 the Privy Council, in a test case from Ontario (*Hodge v. the Queen*) upheld the provincial legislation and regulations on the grounds that they properly came under the head of municipal institutions, the enforcement of provincial laws and matters of a local or private nature, that they did not interfere with the regulation of trade and commerce and did not conflict with the Canada Temperance Act. While this decision validated the provincial law it was questioned whether it voided the Dominion Licence Act. Most of the provinces adhered to their own licence laws and in some, two sets of licences were issued.

The question of the constitutionality of the Dominion law was finally carried to the Privy Council which decided that both the McCarthy Act and an amending Act of 1884 were ultra vires of the Dominion Parliament. The net results of the decisions in the above cases and also the *Brewers and Malsters* case in 1897 may be briefly stated as follows: The licensing of shops and taverns is within the exclusive jurisdiction of the provinces; the Canada Temperance Act which provides for local option in counties or districts of the provinces is within the jurisdiction of the Dominion and the licensing of brewers and distillers, although duly licensed by the Dominion, is also within the competence of provincial legislation.

No. 269 --- Thurs. June 26, 1941 - Liquor Question in Politics

The question of the prohibition or regulation of the liquor traffic has figured largely in Canadian politics. It has cut right across existing party divisions and has embarrassed the leaders on both sides. To follow in detail the historical record of each province in dealing with the liquor problem would require more space than the scope of this bulletin permits. It is possible merely to indicate a few of the salient features.

The Scott Act was adopted in a large portion of the Maritime Provinces shortly after its enactment and proved generally acceptable. The other provinces made, on the whole, little use of the Act preferring to develop local option through provincial legislation. During the years 1884 and 1885 the Scott Act was adopted in

many counties throughout Ontario. Difficulties soon arose, due mostly to controversy as to whether the Dominion or provincial officers were bound to enforce the Act. This was settled in 1887 by legislation which provided that the officers and machinery of the Licence Act should be available for the enforcement of the Scott Act. Dissatisfaction had grown so strong, however, that the latter was repealed in 1888 and 1889 in county after county by decisive majorities. An agitation was begun for the re-enactment of the prohibitory clauses of the Municipal Act which had been omitted when the municipal and licence laws were separated (see Page 1). In 1890 local option provisions were introduced in the Ontario Liquor Licence Act. A municipal council might pass a by-law that no licences to sell liquor might be issued in the municipality. Approval of the by-law by a three-fifths majority of the electors was necessary and it might not be repealed for three years and then only on a three-fifths majority of the electors approving. Quebec always retained the clauses of the Municipal Code authorizing local councils to pass prohibitory by-laws and refuse licences. The tendency in all provinces was, in general, towards restrictive legislation and more stringent regulation. In the two decades before the Great War considerable numbers of rural and the smaller urban municipalities throughout Canada adopted local option under provincial statutes.

The agitation for wider prohibition had never abated. Resolutions in favour of a Dominion prohibitory law were, from time to time, introduced in the Dominion Parliament. During the session of 1884 a resolution declaring "that the right and most effectual legislative remedy for the evils of intemperance is to be found in the enactment and enforcement of a law prohibiting the importation, manufacture and sale of intoxicating liquors for beverage purposes" was adopted by a vote of 122 to 40. However, an amendment declaring that the public sentiment of Canada was then ripe for such legislation was defeated by a vote of 107 to 55. In 1887 a resolution in favour of immediate prohibition was defeated by a vote of 112 to 70 and in 1889 by 99 to 59. A Royal Commission was appointed in 1892 to inquire into the working of the liquor traffic and prohibitory legislation. It took evidence and conducted inquiries throughout Canada and in several of the United States. Four of the Commissioners reported adversely to Prohibition while a fifth presented a minority report strongly in its favour.

No. 270 -- Fri. June 27, 1941 -- The First Plebiscite

Manitoba was the first Canadian province to submit the question of prohibition to a plebiscite. During 1892 a Bill was introduced in the Manitoba Legislature "to enable the electors of Manitoba to vote upon the advisability of introducing a law totally prohibiting the importation, manufacture and sale of intoxicating liquor as a beverage into or in the province of Manitoba". The result of the vote in an electoral list of 46,669 was For, 18,637; Against, 7,115. In 1893 the New Brunswick Legislature adopted a resolution in favour of Dominion-wide prohibition "of the importation, manufacture and sale of intoxicating liquor as a beverage". In Ontario, in the municipal elections of 1894, a vote was taken on the question of "the prohibition by competent authority of the importation, manufacture and sale of intoxicating liquor as a beverage in the province". This vote resulted in a majority for prohibition of 81,769, the total vote polled being 303,209 of a voters' list of 549,202. Similar resolutions were adopted in other provinces and votes on the question taken at different times during the next few years.

A Dominion wide plebiscite taken in 1898 showed a majority of 13,886 in favour of a Dominion prohibitory law. The number of votes polled, however, was only 44 per cent of the number of names on the voters' list. The decision of the Government, as summarized by Sir Wilfrid Laurier, was that "the expression of public opinion as recorded at the polls in favour of prohibition did not represent such a proportion of the electorate as would justify the introduction of a prohibitory measure". The results of the provincial plebiscites, likewise, were not considered decisive enough to warrant the enactment of provincial prohibition laws. It was not until after the outbreak of the Great War, in fact, that there was any real departure from the local option system as developed under the Scott Act and the provincial Licence Acts.

During the years 1916 and 1917, as a war policy, legislation prohibiting the sale of alcoholic liquors, except for medicinal and scientific purposes, was passed in all the provinces except Quebec where similar legislation was passed in 1919. The prohibition extended to the sale of beer and wine except in Quebec. Native wine could be sold, however, in Ontario.

In aid of provincial legislation prohibiting or restricting the sale of intoxicating liquors, the Dominion Government, in 1916, passed a law making it an offence to send intoxicating liquors into any province to be dealt in contrary to the law of that province. In 1919 this Act was changed to read that "on the request of the Legislative Assembly of a province a vote would be taken on the question that the importation and the bringing of intoxicating liquors into such province be forbidden". If the majority of those voting was found to be in favour of such prohibition, the Governor in Council was to declare it in force.

No. 271 -- Sat. June 28, 1941 -- Liquor Question after Great War

After the war the provinces continued under prohibition for varying periods. Plebiscites were taken from time to time to ascertain the will of the electorate as to whether the policy of prohibition, adopted as an emergency measure, should be continued. During 1921 Quebec and British Columbia discarded the existing prohibition laws and adopted the policy of liquor sale under government control. The same course was followed by Manitoba in 1923, Alberta in 1924, Saskatchewan in 1925, Ontario and New Brunswick in 1927 and Nova Scotia in 1930. Thus Prince Edward Island is the only province still adhering to a policy of prohibition.

In 1928 the Dominion Government passed "the Importation of Intoxicating Liquors Act" (18-19 George V. c. 31) prohibiting the importation into any province of intoxicating liquor unless consigned to His Majesty, the Executive Government or government agency vested with the right of selling intoxicating liquor. The provisions of the Act do not apply to the transportation of intoxicating liquor through a province by a common carrier by water or railway if in unbroken packages, the importation by licensed distillers or brewers for blending purposes only; transfer between distilleries; the importation of intoxicating liquor for sacramental or medicinal purposes or for manufacturing or commercial purposes other than for the manufacture or use thereof as a beverage.

The provincial Liquor Control Acts have been framed to conform to conditions peculiar to the localities where they are in force and no two are exactly alike. The salient feature of all is the establishment of a provincial monopoly of the retail sale of alcoholic beverages with the practical elimination of private profit

therefrom. Partial exception is made in the retail sale of malt liquor, by brewers or others, which certain provinces permit while reserving regulative rights and taxing such sales heavily. One province permits local wine growers to sell at retail under certain restrictions. In all the provinces, however, spirits may be bought only at government liquor stores. The provincial monopoly extends only to the retail sale of alcoholic beverages, the manufacture of such being still in private hands but under the supervision of the Liquor Boards or Commissions. The original Liquor Control Acts have been modified from time to time as deemed advisable.

No. 272 -- Sun. June 29, 1941 -- Improving Hard Soils for Gardening

A garden soil needs not only to be well supplied with plant food but to be charged with humus so as to render it workable, receptive to moisture, retentive of moisture and filled with bacterial life. Better too, if it carry a fair percentage of sand to make it sharp.

To supply humus, and plantfood as well, nothing else equals barnyard manure, though in a cool, dry climate too heavy a dressing even of rotted manure should not be applied. In the summerfallow year, twenty-five or thirty tons of well rotted manure may be safely turned under. On an annually cropped area two-thirds this quantity may be fall-ploughed in. Rotting of the manure is important not only to render it suitable for garden purposes but to kill the weed seeds.

Where barnyard manure is unavailable in sufficient quantity, green manuring may be resorted to although the results may fall short of expectations. Sweet clover is a good green-manure crop but if it grows late into the summer it uses up moisture required by the next year's garden crops. Besides it has been found in field practice that, for reasons not fully understood, the turning in of a mass of green growth often fails to confer the degree of benefit that might be anticipated. There may be obscure bio-chemical factors involved.

If peat is available it may be advantageously worked into the soil; but peat varies in composition. Too much raw mossy peat should not be applied at once.

Where sand is handy it might pay to haul some to lighten up a small garden spot but a liberal application annually for a few years would probably be necessary to effect radical improvement.

As the furrow slice is enriched by manuring the plough share may be gradually let in deeper so as to bring up a little fresh soil and produce a deep, rich, spongy root bed.

On the Beaverlodge Station is a spot in the garden from which roofing sods were 'skinned' nearly thirty years ago. In spite of heavy annual manuring, one or two cleverings and more or less admixture of surface loam from adjacent areas that spot is still below par in texture and productiveness, although much better than it used to be.

Surface loam is a precious asset and should be conserved by all possible means.

No. 273 -- Mon. June 30, 1941 -- Women in the Canadian Army

The next six months will see between two and three thousand women absorbed in the Army in the "Canadian Women's Army Corps" according to plans now under way to take women on military strength to relieve men for field service.

Duties for which women will be enrolled will include light transport driving, cooking, office work, telephone operating, and for messenger service, canteen help and Army stores.

They will be required to enroll under approximately the same conditions as soldiers, and will be paid at somewhat lower rates. Those called will be selected from a register to be maintained by the Minister of National War Services from whom the Department of National Defence will make its demands as to numbers, type of employment and location. After a probationary period they will be enrolled for service and will then be administered entirely by the Department of National Defence, and will be eligible for promotion up to the equivalent of commissioned rank.

Talking of the Canadian Army programme, the 1st Canadian Tank Brigade has arrived in the United Kingdom.

Proposal to organize the brigade came by cable from Col. the Hon. J. L. Ralston, Minister of National Defence, after consultation with the United Kingdom Government when he was in England just five months ago. Although plans were then underway for an armoured division the proposal for a tank brigade as well was something entirely new. Since that time "Speed" has been the watchword, - speed in mobilizing, organizing as a unit and passing through initial training.

The new unit is under the command of Brigadier F. F. Worthington, M.C., M.M., who flew to England ahead of the Brigade to prepare for their final training in conjunction with Lieut.-General A. G. L. McNaughton, C.B., C.M.G., D.S.O., General Officer Commanding the Canadian Corps.

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